An Address
ON
THE PATHOLOGY—PAST AND PRESENT—OF SKIN DISEASES.

Delivered at the opening of the Summer Term of the St. John's Hospital for Diseases of the Skin on May 1st, 1906.

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GENTLEMEN,—Three-quarters of a century is a short period in the history of medicine but during that period medicine, including surgery, has as a component part of the great biological science that arose with the renaissance of the end of the eighteenth and the first half of the nineteenth century entered on an entirely new phase of existence. When Erasmus Wilson, the founder of a school of dermatologists in this country, published his treatise "On Diseases of the Skin" in 1842 (second edition, 1847, with eight coloured steel plates) there was extant no text-book on the normal anatomy of the skin. Although Krause made good this want in 1844 it was not until the appearance in 1848 of Gustav Simon's text-book on the special pathological anatomy of the skin that the foundation of the modern pathology, diagnosis, and treatment of skin disease was laid. Plenck of Vienna, in 1783, and Willan in 1808 had, however, given a description of the anatomy of the skin in disease, and Erasmus Wilson had recently insisted on the importance of a careful study of the pathological anatomy of the skin and had also collected and drawn attention to special fungi, insects, and even protozoa as possible factors in the production of certain skin diseases. How great have been the advances since that time only those who have followed the work of Hebra, Kaposi, Unna, and their numerous pupils in Austria and in Germany and the brilliant dermatological schools in France, this country, and America, can appreciate. Unfortunately the earlier workers in the French school who took up the torch from the English dermatologists of the beginning of the nineteenth century appear to have been somewhat superficial in their methods and in their consideration of subject matter and to have propounded theories rather than to have made careful observations or collected facts. The result was that the work was snatched from their hands by Hebra (primus) who, inspired by his great colleague Rokitansky who played so active a part in promoting the study of morbid anatomy, made it his life's work to place the study of diseases of the skin on a sound pathological basis. He began to consider his subject from the point of view of the morbid anatomist and made plain the way for the histologist. Moreover, by associating the clinical phenomena and the morbid anatomical "findings" in skin disease, Hebra laid the foundation of modern dermatology and diverted to Vienna that stream of students that had for so long been attracted to the Hôpital St. Louis in Paris. An anonymous writer in THE LANCET of August 28th, 1880, p. 361, makes the following statement concerning Hebra and his influence on the study of skin diseases. "At this time, through the labours of Alibert, Biett, Gibert, Cazenave, Schedel, and Rayer, the Hôpital St. Louis in Paris was really the only school of dermatology and the influence of its professors was paramount. To appreciate Hebra's influence, it is also necessary to understand that at this time there was much disagreement on fundamental points between French and English writers; the nomenclature had grown intolerably cumbrous and unintelligible, and the whole study, notwithstanding Willan's great work and the fruitful and valuable labours of many French observers, was in a most unsatisfactory condition. As Hebra laboured on through the succeeding years he gradually tested all that had been previously written by means of his own abundant material and accurate observation and comparison, sifting the wheat from the chaff, till he placed dermatology on a thoroughly scientific basis, and established sufficient facts to form a sure foundation for the labours of succeeding observers. He also did good work in simplifying the nomenclature, and classified skin diseases in accordance with the views of his colleague, Rokitansky, on an anatomico-pathological basis. Meanwhile the extremely logical character of his writings and his lucidity and capacity as a teacher were widely extending his reputation and increasing crowds of students from all lands attended his clinique in the rising dermatological school of Vienna in preference to the celebrated Hôpital St. Louis From America especially great numbers constantly attended his lectures, and Hebra's influence in stimulating research amongst his pupils and placing the study of skin diseases in its present position in that country is very remarkable."

Great as were the advances made by Hebra and his school there came a point beyond which even the histological investigations of Kaposi and the younger Hebra could carry them no further, although the parasitic nature of certain skin diseases had already begun to be recognised both in Germany and in this country. Unna and his pupils now took up the work. Unna, a very prolific writer, poured out paper after paper, many of them containing most valuable work, dealing with the pathology, histology, and parasitology of the skin, and by his tremendous energy he stimulated an interest the results of which must long be felt in dermatology. In the meantime a revival of interest in dermatology had taken place in France. It was but natural that the magnificent work of Pasteur and his pupils should influence, and be reflected in, every branch of medicine, and all will remember the interest and excitement with which in the early "nineties" the work on the parasites of various forms of ringworm of Sabouraud and other investigators in France, Germany, Great Britain, and America was received. Through all this period the British school of dermatology has had its periods of activity (followed by periods of rest, no doubt) in the times that were enriched and ornamented by the life and work of such men as Turner, Willan, and Bateman, followed by Erasmus Wilson, whose mantle fell upon Edward Liveing and Jonathan Hutchinson, the fathers and guides of our present brilliant school of dermatologists.

With your permission I will give my impressions of the changes that have taken place within the period of my own medical life. I had the good fortune to be a pupil of the late Sir Douglas Maclagan who, as one of the four professors of clinical medicine in the University of Edinburgh, was accustomed to give lectures on skin diseases to the senior medical students of that period. He was a genial, kindly, and courteous physician of the old school and I may say with confidence that those of us who attended his lectures and demonstrations had placed at our disposal much of what was then known; but when I look back on the modicum of time that was given to the subject and compare what was then demonstrated to us with what is now accessible to every medical student I am torn between two conflicting emotions: should I envy or pity more the modern medical student? envy him the marvellous wealth of knowledge and of material placed at his disposal, or pity him for the amount of information that he is expected to acquire in what we are sometimes compelled to consider an overcrowded curriculum? I think that envy must be allowed to predominate, as I remember with what eagerness some of us who had already passed our examinations accompanied those who had not to the lectures and demonstrations of the late Dr. Allan Jamieson with his wonderful power of accurate demonstration and of lucid exposition, not only by the spoken but also by the written word. Those of us who had attended Professor Hamilton's classes in pathology and pathological histology began to see that the pathology of the skin was a special pathology, no doubt, but that the general principles that applied to disease in other organs must also be applied in the case of disease of the skin. Skin disease was induced by the same causes as was disease in other parts and its manifestations were much the same as disease of those in other organs, making allowance, of course, for differences in structure and position. There were, in fact, no fundamental differences in the process of disease, whether found in the skin, in the lung, or in the kidney. In this way we were led to see that, although diseases of the skin from their number and complexity might well engage the special attention and energy of those who were minded to devote themselves to their study, they were brought into line with other diseases from the fact that the pathological processes were fundamentally all the same. In this way the study of skin disease came to have a greater

interest and a wider importance and significance and I can conceive of nothing that has been of greater advantage to the study and treatment of skin diseases than this recognition of the fact that the special pathology of the skin is as it were conditioned by these general pathological processes that are at the foundation of all disease, the manifestations of these processes varying primarily because of the special structure of the tissues in which the processes are met with. I would ask those "sceptics," or perhaps one might put it "scoffers," who tell us that medicine is, as it always has been, an art of the empiric, to study a text-book or an atlas of dermatology of the year 1860 or, to go a little farther back, say of the time of Erasmus Wilson, alongside a similar text-book or atlas of to-day and compare what was then known with what is now at our disposal. Anyone who will do this, even superficially, will gain an idea of the advance made in this branch of medicine such as will certainly increase his respect for medicine as a whole. Take Hebra's atlas of skin diseases or his chapter on the special pathology and therapeutics of skin disease in Virchow's handbook and compare it with an atlas with descriptive text, such as that published by the senior physician to this hospital, and he will at once be struck by the tremendous advances that have been made. Assisted by Mr. M. Colhoun, the histologist to this institution, Dr. Morgan Dockrell has given in very interesting form illustrations and outline descriptions of some of the typical skin diseases, and as I wish to say something of the methods to be adopted in the study of skin disease if further advances are to be made, I should like to take, and I am sure you will not object to my doing this, some of his groups as a text on which to base my remarks. In general pathology every student knows that he has first to devote his attention to such general questions as inflammation, including congestion, the repair of tissue, suppuration, and the like. He has to study the causes of these conditions, or, at any rate, the changes leading up to, and associated with, them. He has to determine the changes that take place in the connective tissue, the emigration of leucocytes, the multiplication of connective-tissue cells, and the degeneration of these same cells, or of the special parenchymatous cell of the organ or part. He has to study all those changes that are set up through irritation by chemical substances, either those of inorganic type or those produced by micro-organisms or other organised living forms; and he has to study the life-history of many of the organisms that produce these irritant or poisonous substances. He has to note the changes brought about in the blood-vessels, the conditions of atrophy and of hypertrophy, and so on through the whole gamut of pathological processes. He has to be familiar even with errors of development—imperfect or excessive development—of individual tissues. Much of this was foreshadowed in outline by Erasmus Wilson in his classification published in 1847, but dermatology could not get beyond the general pathology of the period.

Now, in the atlas to which I have just referred I find that every single process I have mentioned, and each in its most modern garb, must be considered if we are to arrive at any definite conclusion as to the pathological processes associated with the diseases of the skin and bring them into line in all their bearings with modern treatment. Let us take such a condition as eczema erythematosum. Why should we get the peculiar reddened surface, the thickening and general puffiness of the skin with the accentuated marks that are so characteristic of this condition? On histological examination we find first of all that owing to the atrophy of the stratum granulosum and the filling of the spaces between or beneath the epithelium with fluid the colour of the massed blood in the distended vessels of the corium shines through very distinctly and we have the peculiar redness accounted for. We have, further, evidence of inflammation in the presence of escaped leucocytes accumulated in considerable numbers around these distended vessels and of a more chronic inflammatory condition in the proliferation of the fixed connective-tissue cells, some of which are rounded and embryonic, others of the more regular connective-tissue type. We have evidence of changes in the walls of the vessels and perhaps also in the walls of the lymphatics and of an impaired activity of the endothelium of these structures in the œdematous condition which assists very materially in causing a swelling of the parts; all this formation of new tissues and accumulation of fluids must necessarily lead to thickening of the skin and we have at once an explanation of the naked-eye appearances. Moreover, we are led to look for (and to remove) some irritant substance or condition which may give rise to these histological and pathological changes so characteristic of a progressive inflammation set up by an irritant, usually of an organised nature.

Let us take another example. In certain forms of eczema we see the results of the accumulation of the horny layers filled with coagulated albumin in which staphylococci can multiply and give rise to their products which, absorbed into the cutis, set up a series of changes well recognised by the expert. One cannot go over these many beautiful plates without seeing what an extraordinary prominence must be given to bacteria and some of the higher fungi in the production of skin diseases. Furuncles, carbuncles, ringworm of various types may all be grouped under this heading, whilst the acute inflammations of the skin, especially, in all probability, where vesicles are present, come, as regards causation, into this group. We have still to fathom the cause of varicella and variola, but these are probably due to the action of spore-bearing organisms which, making their way from the blood and lymphatic vessels to the lymph spaces of the skin, there set up the changes characteristic of these special diseases. Even in purpura organisms are found in the vessels and lymphatics of the skin and thence appear to attack the surrounding tissues and so to alter them that they are readily attacked by other micro-organisms. As regards tuberculosis and cancer of the skin little need be said except to indicate that the skin being an exceedingly resistant tissue these diseases when appearing in the skin are almost invariably of a very chronic type and have little tendency to continue their growth in other organs and tissues of the body.

The skin must be looked upon as a covering protecting the organism against the invasion of extraneous irritant substances. The secretions from the normal skin help to wash away irritant matter of various kinds, whilst the continuous shedding of the horny layers of the epithelial covering of the skin, as Metchnikoff points out, plays an important part in the throwing off of those micro-organisms that from time to time must necessarily be deposited on the free cutaneous surface. With all this, however, owing to the somewhat complex structure of the skin and its appendages, we find that micro-organisms may under certain conditions become lodged sometimes between the deeper epithelial layers, sometimes in sebaceous material, or again in the sweat glands, and there setting up slight irritation may cause excessive proliferation of epithelium and obliteration of ducts. As a result of all this more marked alterations may ensue, especially as absorption of the irritant substances formed by these various organisms into the lymphatics of the true skin then takes place and inflammation is set up. We find, of course, that this inflammation of the true skin is an essential part of most skin diseases, and it is interesting to note that it may be induced by irritant matter introduced either from the free surface or by the lymph and blood-vessels from within, and all who have been occupied in the treatment of skin diseases are invariably impressed by the interdigitation of these two factors in their production.

We find that similar conditions obtain in the alimentary canal and in other mucous tracts of the body. Mucous glands take the place of sudoriparous glands but the adjuvant protective action is the same in both cases, the epithelium protects but it is aided in this protective work by the secretion. If, by any means, these secretions are retained or altered, the epithelial surface in turn becomes altered and inflammatory or other pathological conditions may supervene. It is often stated that the inflammations of internal organs are of two types, the parenchymatous and the interstitial, as they are termed. Every medical man knows that these two forms of inflammation are invariably associated and that, on the one hand, we never have a parenchymatous inflammation without an interstitial, and on the other, that an interstitial inflammation is invariably accompanied by parenchymatous changes, though the two processes may differ considerably, both in relative amount and in type, in different cases. Thus in the kidney, the parenchymatous or epithelial changes are so prominent in the earlier stages of acute disease in this organ that they appear to mask all interstitial changes, whilst in certain forms of interstitial nephritis which, as a rule, of course, are more chronic though this is not invariably the case, the changes in the epithelial cells are a prominent though not dominant feature. Similarly we find a parallel series of changes in the skin, and at different ages and under different conditions the different elements of the skin are variously

affected. We have a unity of type of disease in every part of the body and for that reason I look upon skin pathology as a very important branch of pathology and one to which we shall in future look more and more for facts on which to base general arguments as to the cause and treatment of disease.

All this brings me to what might be called the application of my text. We have seen this afternoon that here are facilities for the study of the histology and pathology of the skin, and that the appliances for such study have been utilised to the full by those who are engaged in the service of this hospital, but I cannot help feeling—and although I have not consulted the staff on this point I am convinced that they will be in accord with my views—that there is still room for the provision of facilities for carrying on the study of those lowly organised forms which appear to play such an important part in the production of the disease I have mentioned, and as it is upon the lines of protophytal and protozoal forms of parasitic disease that any great advance on our present knowledge of the pathology and treatment of disease depends, I feel that I am amply justified in claiming that the men who are devoting so much of their time, energy, and ability to the service of those suffering from skin disease should have accommodation, apparatus, and facilities for carrying out the study of these lowly organised forms in order that, in the interests of suffering humanity, they may utilise to the full the enormous amount of material here at their disposal. How without such facilities is it possible to carry on experiments on the action of the rays of the Finsen lamp, of high frequency electric currents, of the x rays, and of similar forms of energy upon the various vegetable and animal parasites that affect the human skin? How without them is it possible to isolate and cultivate these organisms on which to carry out such experiments or to answer the following questions? Are these parasites, whether they be yeast cells, cocci, bacilli, protozoa, or what not, merely concomitants of the disease, or are they essential to its development? Is the parasite a primary or a secondary etiological factor? Are some of the parasites able to produce disease when acting alone or do they require commensal assistants? How can any or all of them be killed or rendered harmless? What substances attack them directly and what drugs render the tissues less susceptible to their attack? How far does impairment of the vitality of the tissues play a part in the production of disease? How may the knowledge obtained in connexion with the growth of micro-organisms be utilised in the treatment of disease and how may clinical observation be brought into line with scientific observations and deductions?

I remember when in Edinburgh being very much struck by a series of experiments carried out by Dr. G. E. Cartwright Wood and Dr. J. Maxwell Ross on the behaviour of the streptococcus of erysipelas in the skin. It had long been known by Hughes Bennett's pupils that a ring of nitrate of silver painted around an erysipelatous area sometimes had the effect of checking the spread of the disease, although in other cases for some reason or other it failed utterly to bring this about. Why should this be? After Fehleisen had demonstrated that erysipelas was caused by the presence of a streptococcus in the lymphatics of the skin it was found that, following in the track of the streptococcus, an inflammatory reaction invariably made its appearance. The lymphatics, especially those around the blood-vessels, became filled with fluid and with leucocytes and it was noted that as this inflammation became well established the streptococci disappeared. At the margin of, or rather just outside, the erysipelatous area, although the streptococci were present, the inflammatory reaction had not yet been set up. It was argued from this that the inflammatory process was really a protective process and that as a result of the changes set up the streptococci were destroyed. Dr. Wood and Dr. Ross argued further that if an artificial inflammation of the skin beyond the zone that the streptococci had reached—that is, well outside the area of redness—was set up it would probably have the same effect as has the inflammation secondary to the presence of the streptococci, and the advance of these organisms, with the resulting changes, would be checked. They therefore painted the part with nitrate of silver or with strong iodine, forming a ring well outside the reddened erysipelatous area, and in every case where this zone was far enough from the red area and of sufficient breadth the advance of the erysipelas was checked.

It is curious how unity of type of disease is reflected in the necessity for special kinds of treatment under special conditions. How many cases of chronic eczema have for generations of medical men been treated by some stimulant application which has converted the chronic process into one apparently much more acute? At first sight we scarcely realise that the irritant applied in such a case acts very much as does massage. It stimulates the tissues, it brings up fresh nutrient material in large quantities, and it accelerates the removal of waste products. In many cases this is all that is required to bring about a return of the tissues to the normal. The application of cupric sulphate or the strapping of a chronic ulcer brings into play just the same factors—the lymph spaces and blood-vessels are emptied, new fluid comes up to take the place of the old accumulation, the tissues receive extra nutrition, and a process of repair is started which in many cases continues. The starting of the process is often sufficient to set a whole train of events in motion. The same principle has now been applied in the treatment of other chronic conditions.

We have a corresponding example in the treatment of an accumulation of large quantities of fluid in the chest cavity. The fluid may have been there some time and little or no absorption has taken place, but clinicians have found that the extraction of a very small portion of the fluid is often sufficient to initiate a comparatively rapid absorption of the whole bulk. I believe that something of the same kind takes place in cases of chronic eczema—eczema capitis. Consider that the lymph space corresponds to a pleural cavity and then continue your parallel. In some cases one has to protect the tissues against irritation, in other cases irritation of one type or another usually different from those that cause the disease has to be applied, and it is only by a careful consideration of the question, how far is the skin disease the direct result of the action of some external or internal irritant and how far is its continuation the result of altered tissue and tissue reactions, that we can expect to devise a method of treatment with which we can expect to obtain satisfactory results. Having made up our minds on these points we are, of course, in a position to apply those many methods of treatment that are now at the disposal of the dermatologist. I have not been very closely in touch with those who have been engaged in the treatment of skin diseases; I have watched the matter rather from the pathological standpoint, but I have often wondered whether in this department of medicine, as in others, the advances in treatment have kept pace with our advances in the knowledge of the causation of disease and its pathology and even whether what is known of the pathology and etiology of disease is sufficiently exact to enable those who have to treat patients to adopt proper methods for the alleviation of symptoms and for the cutting short of the disease.

Most of those interested in this matter will from time to time have seen the announcement of the cure of those pustular conditions of the skin, many of which have proved so difficult of treatment. Now we find Wright attacking these diseases from within, as it were. He makes cultivations of the micro organism that appears to be the cause of the inflammatory and pustular change, injects these into the connective tissues, and thus produces in these tissues, and probably by them, as the result of an interaction between the micro-organism and the tissues of the patient, a substance which so acts upon the causal micro-organism that it is more readily taken up by those wonderful phagocytic cells which are always lying in wait to perform the function of protectors and scavengers should they receive the slightest provocation or the least encouragement. I believe that much still remains to be done in this direction and by this method, and that if you have proper facilities for carrying out Wright's methods you will be able to carry on work and obtain results of a kind and on a scale that at present are scarcely within the range of our imagination. Now such work as that on which the above methods of treatment are based can only be carried on in a well-equipped pathological laboratory, in which provision is made for the study of the histological, bacteriological, and even clinical aspects of disease and where the organisms that cause the disease may be studied alongside their chemical products. The laboratory has now become an indispensable adjunct to the ward and the more fully that is recognised by clinicians the greater and more satisfactory will be the advances made in the study of disease.

Sixty years ago Erasmus Wilson, holding advanced views on the question of scabies, which he very rightly pointed out was directly associated with the presence of the itch insect,

the Acarus scabiei, had only some five years before been under the impression that ringworm was the result not of any parasitic infection but of bad feeding in schools, where, of course, it was most frequently met with. It is easy to understand how, with the comparatively scanty knowledge concerning infection available in those days, this opinion should have prevailed. But I think it conveys a lesson to us in so far that it indicates how difficult it is to get away from tradition and how necessary it is that we should check our clinical observation by careful pathological investigation, and now that we have obtained a fairly accurate knowledge of the histological changes that take place in the skin how important it is that we should go back a little further and try to determine how these histological changes are brought about, how far the various micro-organisms that are found in the skin and associated with skin disease play a primary etiological part, how far they set up secondary processes, and how far they are innocuous. We must make a careful study of the modes of invasion of these different parasitic organisms, of the conditions under which they secrete irritant substances, and of the manner in which they continue to multiply or are killed off. All these are questions concerning which we have some information but about which our knowledge is as yet far from definite or complete.

As an indication of the intimate connexion between biological and pathological problems, may I be allowed for a moment to draw your attention to the work that is at present being done on the changes that take place in epithelial cells in cancer. It is stated that the nucleus of the cancer cell resembles in certain characteristic features, and especially in the arrangement of its chromatin, the embryonic cells, male and female, from which the embryo is developed. This, of course, has been denied and reaffirmed and perhaps we cannot yet consider the matter settled. But it is interesting to note that such a relationship should be suggested, especially in view of the more recent observation that Ruffer and Plimmer's cancer bodies—those minute vesicular bodies with deeply stained central points which are found near the nucleus of the cancer cell—are identical in appearance and structure with the so-called archo-plasmic vesicles of Farmer, Moore, and Walker that are found in the male, and probably in the female, embryonic cells and apparently in no other cells during the course of the life of the individual. As I have already stated, how far this will be confirmed it is yet too early to say, but it is an exceedingly interesting fact, and it behoves those who are studying these epithelial structures to keep a careful outlook for these appearances in the epidermal cells, especially where there is irritation, and, more important still, during the early or so-called pre-cancerous stages that are now sometimes recognised and described.

Gentlemen, I am afraid I have wandered somewhat in my treatment of what to many of you is a most concise and well-defined subject and it is possible that I may have displayed my ignorance of what to many of you may be well-recognised facts, but my aim has been rather to show how great have been the advances in general pathology and therefore in skin pathology during the last 60 or 70 years; to indicate lines along which research may be carried on in future; to draw attention to the fact that such research can only be carried out if definite provision is made for the accommodation of those who wish to carry on such researches; and finally, to point out that the therapeutic work of the physician may in the long run be helped by such researches almost as much as, or even more than, may his diagnosis. Indeed, one can conceive of no perfect system of treatment that is not preceded by an accurate knowledge of the pathological processes, primary and secondary, that are associated with the disease to be treated. The great work of this hospital is to cure but its work can never be satisfactory, and certainly not complete, unless such great opportunities as it affords for the clinical and pathological study of disease are utilised to their full. I believe, however, that your able and energetic staff, supported, advised, and helped by a capable committee of management, may add to the reputation of this hospital, and that it may be a centre from which light goes out and leading may be offered to those who are earnestly studying dermatology. There appears to be no reason why it should not, and many reasons that it should, vie with the old Hôpital St. Louis in Paris or the more recent Allgemeines Krankenhaus in Vienna in the formation of a great school of dermatology, the pupils from which shall make the influence of its teaching felt in every quarter of the medical world.

REMOVAL OF A CEREBRAL TUMOUR (ENDOTHELIOMA) WHICH HAD INVADED THE OVERLYING CRANIAL BONE.

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With an Account of the Pathology of the Tumour by R. F. C. LEITH, M.B. Edin., F.R.C.P. Edin., *Professor of Pathology in the University of Birmingham.*

A MALE, aged 30 years, was admitted to the General Hospital, Birmingham, on Nov. 21st, 1904, with symptoms pointing to cerebral tumour. He had been under the care of Dr. Edward N. Nason in the Nuneaton Hospital where he was admitted on Nov. 5th, 1903, with a history of fits confined to the right side and without loss of consciousness, the seizures commencing in the right big toe. The patient was treated with potassium iodide and during the first five days after his admission to hospital he had five fits, all of the character above mentioned; these were repeated at intervals until May, 1904, when his condition was as follows. There were considerable dragging of the right foot and some loss of power in the grasp of the right hand; the knee-jerk on the right side was exaggerated and there was also ankle clonus on that side. Sensation to touch, heat, cold, and pain was unimpaired, muscular sense was normal, headache was severe, and there was marked optic neuritis on the left side. On May 17th, 1904, Dr. Nason trephined over the upper end of the left ascending frontal convolution. The removed bone looked dark and congested and in parts spongy; it was somewhat adherent to the dura mater. The bleeding was so excessive and the probability of completely removing the tumour was so little hopeful that the operation was abandoned. Microscopic examination of the removed bone suggested that the growth was a spindle-cell sarcoma invading and rarefying the bone.

When admitted to the General Hospital the patient stated that he had had a fit ten days previously in which he became unconscious for a short time. When he walked he dragged the right toes along the ground; the right hand was distinctly weaker than the left and sensation to touch, &c.,

FIG. 1.

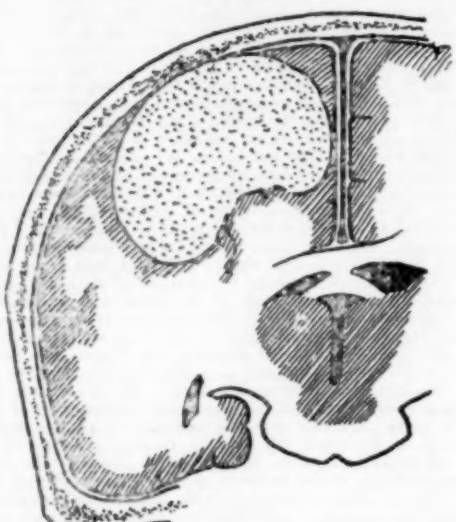


Diagram of a coronal section through tumour.

was unimpaired. As regards the reflexes, the knee-jerk on the right side was exaggerated, while that on the left side was normal; ankle clonus was present on the

right side but not on the left. The plantar reflex was extensor on the right side; the bicipital jerk was exaggerated on the right side. There was optic neuritis in both eyes; the discs were blurred at the margins and vascular, showing only a very moderate degree of choking. Examination of the site of operation failed to show anything of the nature of tumour formation such as might have been expected six months after an incomplete removal of a malignant growth. The patient's condition being worse than in May, as shown by the loss of consciousness after the fit and double optic neuritis, it was determined to attempt removal of his tumour.

First operation, Dec. 5th.—By means of the trephine and forceps a large area of bone was removed over the upper part of the left motor area until an opening was made nearly four inches long and nearly three inches wide, extending to the middle line close to the longitudinal sinus. The bone was much redder than normal and it presented the appearance of a nævus condition; it was porous and adherent in places to the dura mater. The dura mater was opened and the tumour was recognised; it was of a maroon-red colour such as is usually found in myeloid sarcoma. It appeared to be imbedded in brain tissue and just coming to the surface over an area of nearly three inches by two; towards the middle line it extended right up to the falx. The loss of blood, especially from the scalp in removal of the bone, had been very great and the patient was quite unfit to bear any further manipulation. A layer of protective silk was therefore placed over the tumour and brain tissue, the scalp flap was sutured, and normal salt solution was transfused. Shock was profound for the first 24 hours and then steady improvement set in. There was no fit between this time and the second operation and the optic neuritis was not so marked but removal of the tumour was deferred until 11 days from the first operation as it was feared that there might be further severe loss of blood which the patient was hardly in a fit condition to bear.

Second operation, Dec. 16th.—The scalp flap was quickly turned back when a large protrusion of œdematous brain tissue and tumour presented; puncture of this gave exit to a considerable quantity of cerebro-spinal fluid and blood. The growth was enucleated by means of a brain knife and the fingers, the hæmorrhage being very copious. The new formation appeared to be very well defined; it reached into the depth of the brain substance for about two inches and was of about the size of a small orange. A thin layer of gold leaf was inserted over the brain substance to prevent adhesion to the surface tissues and the scalp flap was sutured. Primary union was obtained after both operations; after the second there was no trouble with the gold leaf which healed in completely.

After the removal of the tumour it was found that the

FIG. 2.

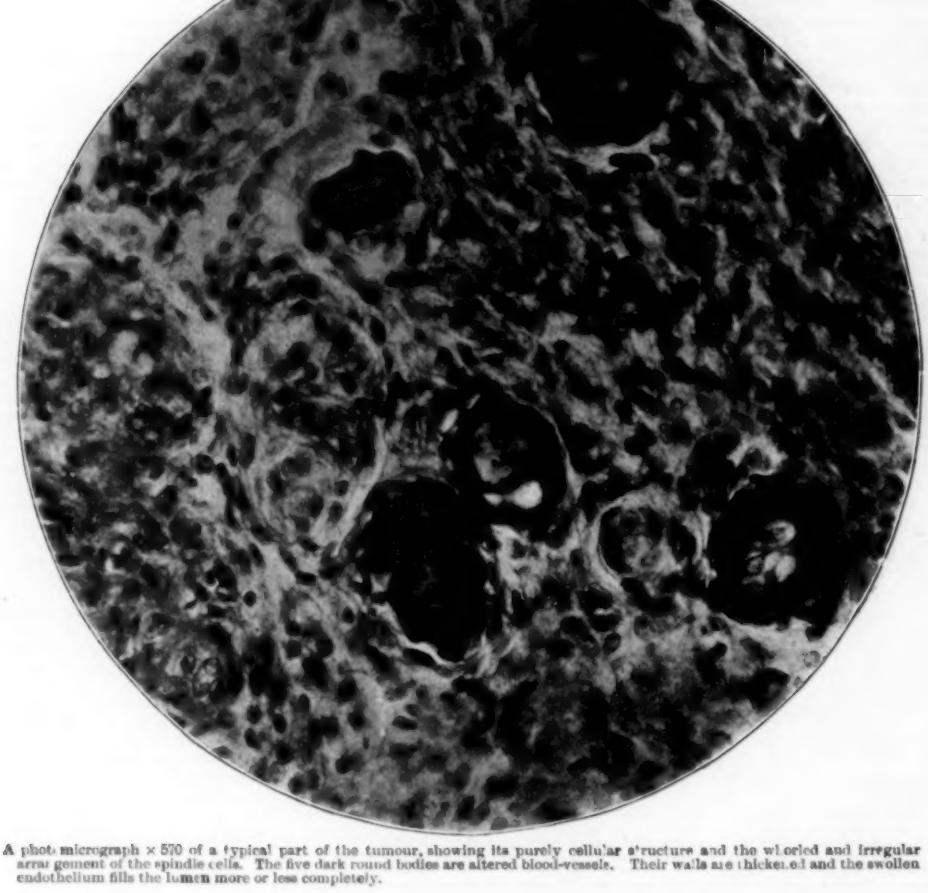
A photomicrograph × 30 of the lower marginal part of the tumour, showing in the left upper part of the plate the capsule continuous with the altered pia mater, which constitutes the capsule on the under surface of the tumour. Large vessels are seen in both. Beneath the pia mater is a fragment of adherent brain cortex, seen to the right of the upper part of the field. The body of the tumour shows the general whorled arrangement of the cells and several blood-vessels with thickened walls.

right arm was almost completely paralysed and that the right leg was also much weaker than before the operation. On Dec. 29th there was slight power of moving the right upper arm; this power gradually increased and the movements of the leg also improved. On Jan. 17th the note was as follows: "Examination of the eyes shows that all traces of optic neuritis have entirely disappeared; patient has had no headache and no fit since operation; the power of the right arm is increasing, and the patient is improving in his power of walking."

At the present time the state of the patient is as follows. The right upper arm is well developed and the muscles move forcibly, the forearm is weak and wasted, and the ring and little fingers are specially feeble in extension. The right leg is generally weak but the patient is able to walk without assistance of any kind. The right knee-jerk is exaggerated; there are ankle clonus and an extensor response in the big toe. The left knee-jerk is exaggerated, there is no clonus, and neither flexor nor extensor response is obtained in the big toe. There is no optic neuritis. When the patient attempts to use his right arm and leg there is a certain amount of tremor and about every fortnight there is violent tremor of the right arm lasting about a minute but the leg is not involved; there is no fit or any loss of consciousness. Examination of the site of operation reveals the absence of hernia and there is no evidence of recurrence of the growth. The patient seems bright and well and is free from headache.

Report upon the cerebral tumour and pieces of cranial bone by Dr. LEITH.—On June 23rd, 1904, a small piece of the parietal bone was received from Dr. Nason. It was thicker, more spongy, and more vascular than normal. It was prepared for microscopic examination and a report was sent on Oct. 21st to the effect that the bone showed a marked osteoporosis, the large spaces being in part filled with blood and in part with solid masses of spindle-shaped cells. These cells were much elongated and superimposed on one another in successive layers. The few blood-vessels were fairly well formed. The structure and arrangement of the cells suggested some form of spindle-celled sarcoma. On Dec. 17th, 1904, a large tumour and several trephined discs of cranial bone were received from Mr. Barling. The former, after fixation and hardening in formalin, presented the appearance of a thick disc-shaped body of an average thickness of nearly two inches. Its upper or outer surface was somewhat convex and distinctly nodulated. Its under surface was somewhat concave with a deep depression near its centre. It measured two and three-quarter inches in the larger and almost two and a half in its other diameter. It possessed a smooth capsule, distinct and well-defined over the greater part of the tumour, particularly over its outer surface, which abutted upon the dura mater and to which it was reported to have

FIG. 3.



A photomicrograph × 570 of a typical part of the tumour, showing its purely cellular structure and the whorled and irregular arrangement of the spindle cells. The five dark round bodies are altered blood-vessels. Their walls are thickened and the swollen endothelium fills the lumen more or less completely.

been slightly adherent. The remains of these adhesions were distinctly visible as minute, thin, translucent, fragmentary flakes attached to the outer surface of the capsule. They suggested ordinary inflammatory adhesions and not extensions of the tumour growth through its capsule. This is especially interesting in relation to the condition of the overlying bone, to be afterwards mentioned. Minute shreds of brain tissue adhered to the inner surface of the tumour giving it a slightly shaggy appearance. The tumour itself was of a firm consistence and of a whitish or whitish-yellow colour. A large vein ramified over part of its outer and marginal surface, on the latter of which an adherent band of fibrous looking tissue was seen forming a sort of rim-like thickening round the margin of the capsule. This was afterwards seen to be altered pia mater and a large pial vein ran outwards from it and communicated with the large surface vein. The relationships may be roughly reproduced by the following sketch of an imaginary coronal section passing through the skull, meninges, tumour, and brain substance.

A V-shaped piece extending from the upper to the under surface was cut out of the margin of the tumour close to the rim of the thickened pial tissue and prepared for microscopical examination. Sections of this showed the strong fibrous capsule bounding the tumour. Adherent to its under surface were fragments of the brain cortex showing pyramidal and other nerve cells (*vide* Fig. 2). The tumour substance showed everywhere an almost purely cellular structure, the cells being large and spindle-shaped. The prevailing arrangement was a concentric one in numerous more or less separate cylinder-like systems. The diameters of these systems varied greatly, some being very small and containing only a few layers of cells, others being larger up to sizes of 10 or 12 times as great (*vide* Figs. 2 and 3). Many of these contained a blood-vessel in their centre which in the smallest and youngest consisted solely of a single endothelial lining but in the larger and older possessed a diminished lumen and a thickened, hyalinely swollen wall. The cells were elongated and spindle-shaped, having a distinct large nucleus and a small amount of clear protoplasm. In the concentric systems they were rolled or wrapped round a centre—in most cases a blood-vessel—like the layers of an onion. In the more irregularly shaped systems which formed the general ground substance the cells, precisely similar in character and structure, formed bundles of varying size and shape embracing the cylinders. The general arrangement thus suggested that which characterises an ordinary compact bone, where the concentric Haversian systems are held together by the irregularly shaped bundles of the interstitial systems of the bone (*vide* Fig. 3). But though the arrangement was somewhat similar to that of bone the structure was entirely different. It was much more purely cellular, there being very little fibrous tissue of any kind present and the cells being characteristically of a sarcomatous type. There were some slender fibrous bands passing from the capsule inwards for short distances into the tumour (*vide* Fig. 2), but no fibrous structures throughout the body of the tumour, except a number of roundish bodies of varying size, composed of several concentric fibrous lamellæ. These bodies were very numerous and prominent throughout the whole section. (Five of them are seen in Fig. 3.) Their origin in, and development from, blood-vessels could be quite clearly traced. The first step consisted in a thickening of one or more of the fibres of the outer coat, giving with van Giesson's stain the bright pink colour characteristic of white fibres. New and similarly thickened fibres appeared within the others and those first affected became hyalinely swollen, producing a more or less circular nodule, almost solid, or clearly composed of a number of concentric lamellæ compressing the lumen and ultimately causing its disappearance. These solid or nearly solid cylinders varied much in size from that of minute arterioles to large-sized vessels, but none of them possessed any calcareous or sandy material, such as the similar-looking bodies of a typical psammoma possess. With van Giesson's stain they gave a dark-red colour, not so bright as the young ones or so characteristic of fibrous tissue. If the term psammoma be restricted to characteristic tumours containing these sandy concretions it is not applicable to this tumour which, however, shows otherwise all the cellular structure and arrangement characteristic of that class of tumour. It is, however, clearly a sarcoma of the endotheliomatous type originating in the pia mater and should be placed somewhere near either the psammomata or the peritheliomata.

The relationship of the tumour growth to the overlying dura mater and cranial bone was carefully considered. No part of the former was removed but it was reported to have been deeply congested and somewhat adherent both to the bone outside it and the tumour inside it. The latter, on the other hand, was removed over a wide area and carefully examined. The trephined discs could be arranged in their proper places with sufficient accuracy for practical purposes and it was found that the bone over the centre of the tumour for an area of about three-quarters of an inch was slightly thickened, more spongy and more vascular than normal, while the bone surrounding this area for some considerable distance was distinctly more vascular though not apparently thickened.

The central thickened disc showed on microscopic examination the inner table to be rather extensively destroyed by tumour growth which penetrated in masses into some of the inner spaces of diploe. Smaller apparently isolated clusters of tumour cells were found as far out as the outer table. They also ran horizontally into neighbouring spaces of the diploe, only, however, for short distances from the various chief sites of the invasion. The whole of this disc of bone practically to its periphery showed the tumour invasion, but the bone immediately surrounding it did not show it. This surrounding bone had apparently escaped invasion but the spaces of its diploe for a considerable distance beyond were larger than normal and their blood-vessels increased in size and number. This increased porosity was apparently brought about by small irregular cells lining the spaces. No large osteoclasts could be seen and the bone appeared to be otherwise normal. The tumour masses invading the bone showed essentially the same structure as the main tumour growth itself, but the concentric cylinders of cells were not so well formed and there were none of the fibrous and hyaline blood-vessels which are so plentifully present throughout the body of the tumour.

The question arises as to how this invasion of the bone occurred. It could only have been by direct extension or by metastasis. The microscopic appearances are strongly in favour of a direct extension along the sheaths of the blood-vessels, through the capsule and through the dura mater into the bone, probably along the lines of, and subsequent to, the simple inflammatory adhesions between the capsule of the tumour and dura mater and between the latter and the bone. These extensions were numerous but all of them minute in size, and hence they might pass through the dense fibrous tissue of the dura mater without spreading much, if at all, into its substance. On the other hand, after penetrating the inner table of the bone their further spread would be favoured by the spongy vascular structure of the diploe. It is therefore probable that the size and extent of the bone invasion had no counterpart in the dura mater. Had the affected bone not been fully removed with the tumour, a recurrence of the growth was at least probable, and in the absence of definite facts as to the condition of the dura mater microscopically it is difficult to make any pronouncement in regard to it, but it is at least possible and perhaps probable that the invasion of the dura mater was slight and limited to the sheaths of vessels which themselves were in the process of occlusion. Hence atrophy and disappearance of the tumour cells might be expected. That the invasion of the bone was a true metastasis is rendered improbable not only by the appearances but also by the fact that metastases are practically unknown in this class of tumour. Cerebral sarcomata in general, and in particular sarcomata of this type, are very feebly malignant, much less so, for instance, than most gliomata, so that their extirpation, wherever this is possible, offers much hope of the patient's recovery.

BLOOD PRESSURE AND PIGMENTATION IN ADDISON'S DISEASE.

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I AM indebted to Dr. George Parker for permission to put on record the following case, on which I made various observations on the blood pressure.

The patient, a man, aged 30 years, a machinist, was admitted to the Bristol General Hospital on July 5th, 1905, complaining of abdominal pain and weakness and darkening

of the skin. The family history and previous history were unimportant. About a year previously, after a summer holiday at the seaside, his friends remarked on his being "sunburnt," and the darkening had increased since. About the same time he began to feel very tired and languid and had had to stop work at intervals, though still able to do a little after a few weeks' rest. His work was not at all heavy. He was now feeling very weak. During the last three months he had suffered from pain in the right hypochondrium, worse a few hours before food, better after a meal. It was not very severe. He had not vomited and there had been no diarrhœa. He had had no cough or night sweats or hæmoptysis.

apex beat was neither seen nor felt, though there was no emphysema. There was no impaired resonance in the lungs but there were persistent crepitations at the left apex behind on deep breathing. The abdomen was normal except for a little tenderness in the right hypochondrium. The urine contained a trace of albumin; it was of specific gravity 1018. The average daily quantity was from 30 to 40 ounces. The patient was confined to bed, given extra diet, and a mixture containing five grains of guaiacol carbonate and eight minims of tincture of nux vomica. He was also given one tabloid of suprarenal extract twice a day.

During the first week there was no improvement. The

CHART 1.

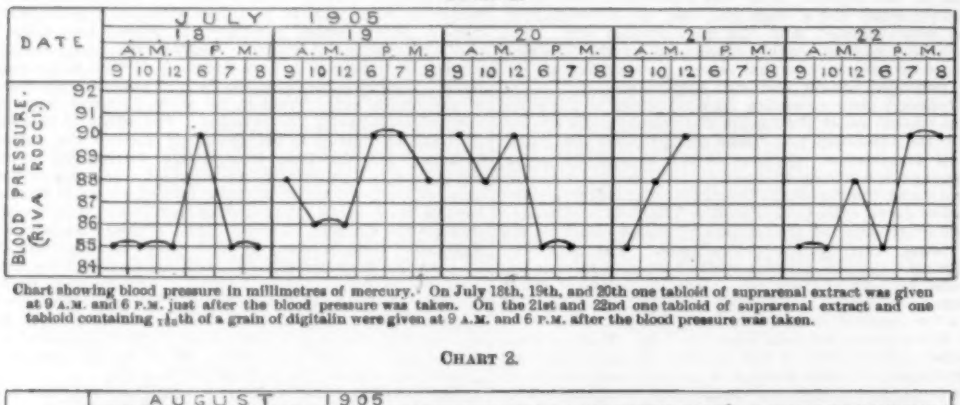
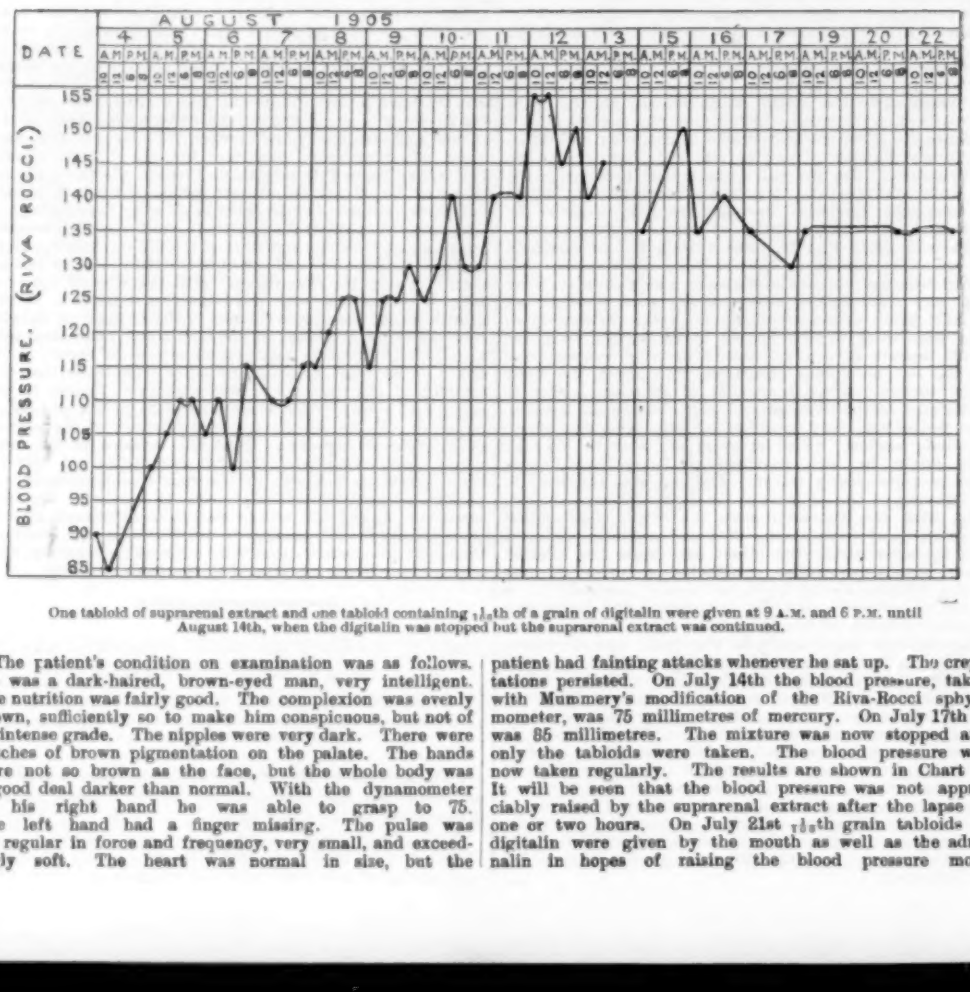


Chart showing blood pressure in millimetres of mercury. On July 18th, 19th, and 20th one tabloid of suprarenal extract was given at 9 A.M. and 6 P.M. just after the blood pressure was taken. On the 21st and 22nd one tabloid of suprarenal extract and one tabloid containing $\frac{1}{100}$th of a grain of digitalin were given at 9 A.M. and 6 P.M. after the blood pressure was taken.

CHART 2.



One tabloid of suprarenal extract and one tabloid containing $\frac{1}{100}$th of a grain of digitalin were given at 9 A.M. and 6 P.M. until August 14th, when the digitalin was stopped but the suprarenal extract was continued.

The patient's condition on examination was as follows. He was a dark-haired, brown-eyed man, very intelligent. The nutrition was fairly good. The complexion was evenly brown, sufficiently so to make him conspicuous, but not of an intense grade. The nipples were very dark. There were patches of brown pigmentation on the palate. The hands were not so brown as the face, but the whole body was a good deal darker than normal. With the dynamometer in his right hand he was able to grasp to 75. The left hand had a finger missing. The pulse was 60, regular in force and frequency, very small, and exceedingly soft. The heart was normal in size, but the patient had fainting attacks whenever he sat up. The crepitations persisted. On July 14th the blood pressure, taken with Mummery's modification of the Riva-Rocci sphygmometer, was 75 millimetres of mercury. On July 17th it was 85 millimetres. The mixture was now stopped and only the tabloids were taken. The blood pressure was now taken regularly. The results are shown in Chart 1. It will be seen that the blood pressure was not appreciably raised by the suprarenal extract after the lapse of one or two hours. On July 21st $\frac{1}{100}$th grain tabloids of digitalin were given by the mouth as well as the adrenalin in hopes of raising the blood pressure more

successfully. After two hours there was a rise in each case. The pressures were read by an independent observer who was not aware of the results hoped for, though I several times verified them myself in addition.

At this juncture I left Bristol for a holiday and the observations were omitted. The digitalin and adrenalin were continued. On August 4th the blood pressures were again read and are recorded in Chart 2. About this time the patient began to feel marked improvement and was allowed up in the open air. On the 14th he was feeling, as he said, quite well. There was no decrease of pigmentation. The pulse was greatly improved in volume and tension. The digitalin was now stopped. On August 21st a blood count showed: red blood corpuscles, 4,500,000 per cubic millimetre; white, 8800 per cubic millimetre; and hæmoglobin, 72 per cent. The daily quantity of urine excreted on the dates given was as follows: from July 5th to 21st, 30 to 40 ounces; from July 23rd to August 4th, 40 to 55 ounces; and from August 9th to 23rd, 70 to 80 ounces. On August 26th he was sent to a convalescent home. He was now able to take long walks without feeling unduly tired.

I saw the man again in the middle of September. He was then "better than he had been for years." I think the colour was distinctly paler. The blood pressure was 120 millimetres. He was taking the suprarenal tabloids but not digitalin. On Oct. 11th he was still well and the weight was 9 stones 8½ pounds. On this date, as the pulse was soft again, he was given one granule of digitalin daily for ten days as well as the suprarenal tabloids. On Nov. 1st the weight had increased 1 pound. On the 8th the blood pressure had fallen to 95 millimetres and the patient did not feel quite so well. The digitalin was therefore repeated. I examined him thoroughly on the 14th. The colour was undoubtedly a good deal paler. He said he had "not felt better for a year"; a "good deal better than last week." The blood pressure was 105 millimetres. The lung was now clear of crepitations. When seen on Dec. 23rd he stated that he had been taking digitalin once daily and four suprarenal tabloids a day since Dec. 6th. From Nov. 22nd to Dec. 6th he took digitalin on alternate days. On Dec. 6th the blood pressure was 115 millimetres; on the 23rd it was 120 millimetres. He had been at work for ten days and could do it well and easily.

The blood pressure in Addison's disease.—The blood pressure in Addison's disease is perhaps lower than in any other chronic condition. In the above case it was at first between 75 and 85 millimetres of mercury. This is the lowest pressure I have found in any disease persisting for any length of time. Potain,[16] in his measurements of blood pressure in different pathological conditions, puts Addison's disease in the lowest class. Janeway[3] says that this is the universal experience, though he mentions an exception, discussed later. Addison[2] himself refers to the pulse as "remarkably soft and compressible"; in one case "exquisitely soft and compressible." This characteristic has been recognised by every writer since.

We now know that the explanation of this low blood pressure is that the adrenalin normally supplied by the suprarenal glands is in these cases very deficient or absent. It is well known that a most important effect of the adrenalin continually furnished to the blood stream is to raise or to maintain the blood pressure by constricting the arteries and arterioles (Oliver and Schäfer[14]). Langley[15] has shown that the exact action of adrenalin on all the unstriped muscle in the body is the same as that obtained by stimulating the corresponding sympathetic nerve. It is not certain whether the action of adrenalin is to stimulate the nerve terminals or the unstriped muscle itself. It is certainly tempting to regard adrenalin, derived as it is from the medulla of the suprarenal, which is developmentally an outgrowth of the sympathetic, as the normal pabulum for sympathetic nerve terminals, enabling them to fulfil their functions. In cases of Addison's disease no adrenalin can be obtained from the suprarenal glands.

On this hypothesis Addison's disease presents a symptom-complex equivalent to a paralysis of the sympathetic nerve terminals. It might be imagined as a sympathetic curarisation, but the paralysis is not due to a toxin present but to a food or stimulus absent. To the vaso-motor relaxation thus produced the symptoms of Addison's disease are due. The characteristic fainting on sitting up, the susceptibility to cold specially referred to by Bramwell,[4] and the asthenia are all the results of vaso-motor relaxation and partial or total loss of the vaso-motor reflex. The blood fills the lax splanchnic vessels when the patient tries to sit up and the blood-supply is not correspondingly increased when he exercises his muscles.

Probably not only the vessels but other unstriped muscle shares in the paralysis of Addison's disease. In the case above recorded the pupil did not dilate on pinching the neck. Perhaps we have here an explanation for the disorders of the alimentary system so commonly present.

The pigmentation of Addison's disease.—That the asthenia, faintness, and soft pulse are due to the absence of adrenalin from the circulation is now generally believed. The cause of the pigmentation is, however, by no means clear.

1. It has been held that the suprarenal glands exercise some function in the metabolism of pigments, especially blood pigments, and that to the failure of this the pigmentation of Addison's disease is due. In support of this the following experiments have been adduced.

(*a*) MacMunn[11] considered that a special pigment, urohæmatoporphyrin, appeared in the urine in cases of Addison's disease. He believed that hæmoglobin and histohæmatins became changed into hæmochromogen in the adrenals. Garrod[6] has, however, shown that this urohæmatoporphyrin is a mixture of urobilin and hæmatoporphyrin, both of which appear in other conditions, and that there may be only a trace of the latter in Addison's disease.

(*b*) Several observers—e.g., Nothnagel—have noticed "carrier cells," bearing pigment, in the skin and just beneath it. Pföringer[10] describes and figures free granules of pigment in the capillaries of the skin. It is suggested that these are processes in the deposition of pigment. It is equally open to argument that the "carrier cells" are acting as phagocytes and carrying off excessive pigment, and that the granules, too, are being removed, not deposited. Moreover, why is pigment deposited only in the skin and mucous membranes if there are free pigment granules and granule-bearing cells in the general circulation?

(*c*) Several experimenters have artificially imitated the pigmentation of Addison's disease in mammals by injuring or removing the suprarenal glands. Positive results have been obtained by Tizzoni,[18] Nothnagel,[13] F. and S. Marino-Zucco,[12] and Boinet.[9] The results of the last are unexpected in that he got pigmentation of the viscera as well as of the subcutaneous tissues in rats after about a month. Negative results are recorded by Vecchi,[19] who injected the glands with tubercle bacilli and got caseation and more or less complete destruction of both. He also gives a full record of the few positive and the many negative results by other workers, for which his paper may be consulted. The explanation of pigmentation in these cases will naturally be the same as that in Addison's disease. It is important to note that, with the exception of Boinet's cases, long survival is necessary to show pigmentation. Perhaps it is justifiable to add that observation of slight changes in pigmentation would be peculiarly apt to depend on the expectation of the observer.

There are serious objections to regarding the pigmentation of this disease as due to faulty metabolism of colouring matters in the adrenals. In practically all the recorded cases the pigmentation has affected the skin and mucous membranes and has left the viscera quite free. Occasionally there is local pigmentation about tuberculous deposits in the abdomen and in Harley's case[5] there was a patch of pigmentation of the pia mater. These were due, certainly in the abdominal cases and probably in Harley's, to local inflammatory changes. Now we know that in two diseases undoubtedly involving abnormal metabolism of pigments—namely, malaria and hæmochromatosis, the viscera do become pigmented. Further, it is extremely unlikely that small glands like the suprarenals, one very important function of which has been placed beyond all doubt, should be set apart to control in addition the colouration of the skin.

2. It has further been held that the pigmentation is due to some effect on the sympathetic nervous system, particularly the solar ganglia. Thus Greenhow[7] says: "The change of colour in Addison's disease is undoubtedly produced, like the constitutional symptoms, through the medium of the nervous system. ..... I am inclined to attribute it to reflex irritation through the cerebro spinal nervous system." Rolleston, in Allbutt's "System,"[17] says, "Pigmentation points to some positive irritation." Now there are many cases on record of typical Addison's disease due to *atrophy* of the glands with normal sympathetic ganglia and nerves. It is difficult to see how in these cases we are

justified in assuming any irritation of the nervous system. Irritation of nerves, splanchnic or skeletal, does not usually cause pigmentation. The analogous case of tuberculous or malignant disease of the solar plexus with pigmentation is considered later. It is *possible*, I admit, that this is the causation of the pigmentation in von Recklinghausen's disease. But, in general, irritation of a nerve or neuritis or involvement of the sympathetic system in disease does *not* cause local or general pigmentation. The facts that in many cases of Addison's disease there is no evidence of sympathetic irritation, that in most cases of irritation of sympathetic or peripheral nerves or ganglia there is no pigmentation, and that pigmentation is usually present in Addison's disease seem to discount this explanation. In one of Vecchi's cases there was caseation in a semilunar ganglion but no pigmentation.[10]

3. Abelous's interesting experiments on frogs may here be mentioned.[1] He removed the adrenals and found that after 24 hours the animals were distinctly darker in colour. The injection of adrenalin restored the colour to the previous lighter tint but after from eight to ten hours they darkened again. Just before death the colour became much lighter. He attributes this to an action of adrenalin on the chromoblasts analogous to that on the vessels. Paul Carnot had also shown that bodies act similarly on the chromoblasts and the calibre of the vessels. These results cannot be applied in their entirety to man, owing to the fact that in man the pigment cells of the skin are not contractile, at any rate to the same extent. But I would emphasise the close relationship here established between pigmentation and the calibre of the vessels of the skin.

4. I believe that the pigmentation of the skin in Addison's disease and in the experimental animals surviving lesions of the suprarenals is due to increased function of the pigment cells in consequence of the relaxation of the blood-vessels supplying them. The existence of this relaxation is admitted; we have good physiological reasons for knowing why it occurs, and all the other symptoms of the disease are due to it. There is an obvious advantage in referring the whole clinical picture to one cause. This also gives good reason for the well-known facts that the pigmentation is merely an exaggeration of the normal, that it especially affects parts previously much pigmented, like the nipple, and that the viscera are not involved. It also explains the equally well-known fact that parts irritated by friction or especially by a mustard plaster may become very much darker. The vascular relaxation caused by the irritation does not, as normally it should, pass away for a very long time owing to the loss of vaso-motor control, and the pigment cells being better supplied with blood exaggerate their function. "Sympathetic irritation" in the abdomen could not be the cause of this local excessive pigmentation.

Is it a fact that vascular relaxation causes increased pigmentation?

(*a*) *Local vascular relaxation causes local pigmentation.*—This is seen in the following cases. The skin around chronic ulcers is red and inflamed and becomes in time pigmented. If they heal the scar is often pigmented, perhaps permanently. In pregnancy there is supranormal vascularity of the breast and the vagina, extending over several months. These become deeply pigmented. The pigmentation of the nipple afterwards becomes less but never returns to the virgin state. In erythema solare vascular dilatation of the skin of the face is followed by pigmentation. Presumably this is the origin of the dark colour in negroes, of course extending through many generations. In chronic heart disease the engorged lungs develop brown pigmentation. Congenital nævi are usually very dark or black if they involve the skin.

(*b*) *General vascular relaxation causes general pigmentation.*—It is well known that general pigmentation is not peculiar to Addison's disease. It occurs in hæmochromatosis and *diabète bronzé*, arsenical poisoning, argyria, and other conditions that probably do not concern us now. But in some cases it is due, I believe, to vascular relaxation of the cutaneous vessels as in Addison's disease. General pigmentation has been described in advanced pulmonary tuberculosis (in seven cases out of 27, Laffite and Moncany, quoted by Boinet), especially about the nipples, axillæ, and sides of the neck, and exaggerated by poultices or plasters. It has also been described in tuberculous peritonitis and in malignant disease of the abdomen. Again, it has been described in Graves's disease and in pernicious anæmia even apart from administration of arsenic. Boinet[2] has classified cases of these and a few other diseases showing pigmentation under the title of Addisonism and has examined the adrenals in a number of necropsies on such. He finds in most cases that the adrenals were "sclerosed," sometimes large, sometimes small. In a few, one of the glands showed caseous nodules or cancer when examined microscopically, but not usually. In some cases he admits that one of the adrenals was normal. Seeing how frequently the adrenals show some sclerosis at necropsy when there have been no symptoms during life resembling Addison's disease, it is very doubtful if their functions were really interfered with in Boinet's cases, especially when one was normal.

There is one feature common to all these types of cases—that is, either a low general blood pressure or evidence of vascular dilatation in the skin extending over some months. Potain[16] in his measurements of blood pressure found it "very low" in malignant disease of the abdomen and "low" in pulmonary tuberculosis. If the solar plexus was so involved as to paralyse the splanchnic vessels it would, of course, again be very low. Janeway[9] also points out that the blood pressure is exceedingly low in advanced pulmonary tuberculosis and malignant disease of the abdomen. In exophthalmic goitre the blood pressure is sometimes excessive, sometimes low (Janeway[9]), but the skin is frequently very flushed, as Osler remarks in his "Textbook of Medicine" (sixth edition), and there is usually sweating. In pernicious anæmia the blood pressure may fall very low indeed (Janeway).

I do not suggest that all cases of general pigmentation are due to vascular relaxation of the skin. I do not know if the pigmentation of arsenical poisoning always follows or is due to an erythema and I have not lately had the oppor unity of studying a case of von Recklinghausen's disease. The fact that low blood pressure or vascular relaxation is not now present is no proof that any pigmentation may not have been due to it in the past, just as some degree of brown pigmentation of the nipple is permanent after pregnancy.

Deductions.—If all the symptoms of Addison's disease, including the pigmentation, depend on the vaso motor relaxation the treatment should be directed to constricting the arterioles and raising the blood pressure. Adrenalin does this if given intravenously but only for a few minutes. Hence one cannot expect much from it given by the mouth, and most observers consider it of little value in Addison's disease. Normally it is being doled out in minute quantities constantly by the gland. On reference to Chart 1. it will be seen that on each of five occasions it failed to raise the blood pressure after one or two hours. Digitalin was therefore tried, this being known to maintain its action for a very long time. On each of three occasions it raised the blood pressure appreciably after one or two hours. Janeway records similar results.[9] Later, when there was already much in the circulation, the effect of a single dose was not so constant. But, as Chart 2 shows, after a while, with no other special treatment, the blood pressure steadily rose till it reached 155 millimetres. The digitalin was then stopped but the blood pressure had only fallen to 120 millimetres after a month. When after nearly three months it had fallen to 95 a week's course of digitalin raised it to 105 millimetres and by Dec. 23rd a further course raised it to 120 millimetres. The symptoms throughout ran parallel with the blood pressure. Thus a case showing all the symptoms of Addison's disease of such severity that at one time he fainted whenever he sat up in bed, was practically free from symptoms nearly six months after coming under treatment, but tended to relapse slightly whenever that treatment was discontinued. He was able to return to work. This was 18 months after the first onset of the disease. It is interesting that he had consumption, so, presumably, the lesion in the adrenals was tuberculous, as these cases are supposed not to do so well as those with simple atrophy.

It is too soon to call this a "cure," and the patient will probably always need an occasional course of digitalin. Nor does relief in one case constitute digitalin a specific. But the parallel improvement in the symptoms and blood pressure, side by side, lends support to the theoretical conclusions above detailed. It gives encouragement to regard the sphygmometer as important a register of progress in Addison's disease as the thermometer is in enteric fever, and to look to the vaso-constrictors of prolonged action as furnishing the most hopeful line of drug treatment.

In estimating the value of any measures in this disease it is important that only cases showing Addison's symptom-complex of pigmentation, soft pulse, and asthenia should be

included. Pigmentation alone is not sufficient. Many cases described as Addison's disease run a very chronic course with few or no symptoms and a normal blood pressure. In one of Janeway's it was even raised. He does not say if pigmentation was present. Extensive tuberculous lesions involving, amongst other organs, the adrenals were found post mortem. But we must remember that Addison's disease may not be present even with somewhat advanced adrenal lesions, because macroscopic change is a very inadequate test of chemical function. Boinet describes, with surprise, a case of extensive lesions of both adrenals with no symptoms. There was also contracted granular kidney, which may have counteracted any deficiency of adrenalin by raising the blood pressure.

Summary.—1. The symptoms of Addison's disease are due to vaso-motor paralysis. This is due to absence of adrenalin, the normal excitant of the sympathetic nerve endings, from the blood. 2. The pigmentation is due to vascular relaxation of the skin causing exaggerated functional activity of the pigment cells. 3. The most promising line of treatment, on theoretical grounds, is the administration of vaso-constrictors of prolonged action and digitalin has given good results in one case.

Postscript.—The subsequent history of this patient was extremely disappointing. Towards the end of January he met with a slight accident, which apparently turned the delicately poised scale against him and he became rapidly worse and died in February, 1906. I unfortunately was not able to see him during this time, having left the hospital, nor did I see the necropsy, but the pathologist kindly informed me that the suprarenal glands showed extreme atrophy but no tuberculosis and there was old tuberculous mischief of mild degree at the left apex of the left lung. There were no other lesions.

Bibliography.—This is not meant to be a full bibliography of Addison's disease or the suprarenals. Such may be found in Allbutt's System and in Vecchi's article. The following are merely the authorities quoted: [1] Abelous: Comptes Rendus de la Société de Biologie, Paris, 1904, lvi., p. 952. [2] Addison: Disease of the Suprarenal Capsules, 1855. [3] Boinet: De l'Addisonisme, Archives Générales de Médecine, Paris, 1904, ii., p. 2324. [4] B. Bramwell: Clinical Studies, Edinburgh, 1903-04, New Series, vol. ii., p. 142. [5] Conder: Edinburgh Medical Journal, 1905, p. 275. [6] Garrod: Journal of Physiology, vol. xiii., p. 598; Brit. Med Jour., 1896, vol. i., p. 747. [7] Greenhow: Croonian Lectures, 1875. [8] Harley: British and Foreign Medico-Chirurgical Review, vol. xxi., p. 204. [9] Janeway: The Clinical Study of Blood Pressure, New York, 1904. [10] Langley: Journal of Physiology, 1901, p. 236. [11] MacMunn: Brit. Med. Jour., 1886, vol. i., p. 31; Philosophical Transactions, 1886. [12] Marino-Zucco: Riforma Medica, Rome, 1892, tome i. [13] Nothnagel: Zeitschrift für Klinische Medicin, Berlin, 1879, Band i., S. 77. [14] Oliver and Schäfer: Journal of Physiology, 1895, p. 202. [15] Pföringer: Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, 1900, S. 1. [16] Potain: La Pression Arterielle de l'Homme à l'état Normal et Pathologique, Paris, 1902. [17] Rolleston: Allbutt's System, vol. iv., 1897; Encyclopædia of Medicine, vol. i., 1899. [18] Tizzoni: Ziegler's Beiträge, 1889, Band vi., S. 1. [19] Vecchi: Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, 1901, S. 577.

THE APPOINTMENT OF QUALIFIED WOMEN WITH SPECIAL REFERENCE TO THE HYGIENE AND FEEDING OF INFANTS.

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"Women as Sanitary Inspectors" was the title of a paper which was read by me in Exeter in August, 1902, and which appeared in the *Journal of State Medicine* in December of the same year. The subject was one, however, which had interested me for many years before. I had frequently talked it over with Dr. J. F. W. Tatham when the latter was medical officer of Salford, and later still of Manchester, before he went to the important post he now holds in the Registrar-General's office. The matter was indeed brought from time to time conversationally before the chairman of the Leeds Sanitary Committee, but it was not till about 1897 that the committee itself was prepared to act upon the suggestions previously made. The women's conference of the Congress of the Royal Sanitary Institute held that year in Leeds passed a resolution which was sent to the sanitary committee and at the November meeting I was asked to report on what particular duties might be allocated to a woman inspector if one were appointed. In my report, dated Dec. 9th, 1897, it was suggested that if one woman inspector only were appointed she would be specially charged with the duty of visiting workshops where women are employed. Her duties in regard to these work-places would be those of the ordinary workshop inspector, to watch over their cleanliness and ventilation, to prevent their being overcrowded, and to secure that no effluvium should enter the work-places from their drains or conveniences. The report entered somewhat into detail as to duties. It was further suggested that if the committee resolved to appoint several inspectors one or more of them should be told off to visit houses where children under two years of age had died, except where these deaths were already being investigated in the ordinary way in connexion with zymotic inquiries. The report then went on to remark that its infantile mortality is an important indication of the health of a town and that it had in Leeds for many years back been unfortunately high. It was suggested that the woman inspector "should make a complete examination of the house and the outside evidences as to the state of its drainage, if necessary obtaining the assistance of the ward inspector" in testing the latter. It was pointed out that "one principal advantage of her visit would be her oversight of the condition of the house in regard to cleanliness, the treatment of the children in regard to diet, and what might be called the domestic part of hygiene as distinguished from that part of hygiene which is more connected with sanitary appliances, so-called. She would be expected to be able to advise mothers what symptoms to be on the look-out for when infective disease was in the neighbourhood and to have a sufficient knowledge of the early symptoms of infantile diseases to instruct the more ignorant among them in regard to those slight cases of infectious disease which are so exceedingly apt to be neglected and to lead to the infection of other members of the family. She would advise the woman of the house as to the way to keep the trapped gullies about the premises clean and the importance of doing so." She would also, it was hoped, "exercise her influence in persuading the housewife not to throw large quantities of vegetable and animal garbage into the dustbin." The report went on to say: "In going over the reports by the ward inspectors it has often struck me that there is considerable variation in regard to the returning of the houses they visit as 'clean' or 'dirty.' The addition of trained women to our staff of inspectors would probably raise the standard in this matter. Their advice to housewives upon the place for keeping food, and especially milk, upon the necessity for scalding the latter, especially in hot weather, their instructions as to the thorough cleansing and disinfection of the feeding bottle, would all be of great value as preventatives of infantile disease." This report was printed and circulated in January, 1898, and was followed by a further one, printed in March of the same year, and reprinted in the following February, setting forth the results of inquiries made in several other towns as to the women there employed as sanitary inspectors. It was found that the amounts paid varied even in Manchester from 14*s.* a week to "health visitors" up to 37*s.* 6*d.* for the trained workshops inspectors.

In the year last named the Leeds Sanitary Committee resolved to appoint two women as assistant inspectors, the qualification to be the same as for the men—the inspector's certificate of the Royal Sanitary Institute or that of the London or Scotch Boards. They also resolved that the salary should begin, like that of the men, at 33*s.* a week. We were exceedingly fortunate in our first appointments. Two ladies of considerable attainments, both holding the certificate of the Royal Sanitary Institute and both enthusiasts in regard to the work, were appointed towards the end of May in that year. At first their duties consisted largely of workshops inspection, although as part of their training both took a share of the house-to-house work which forms an important feature of our sanitary administration in Leeds. From the first all cases of puerperal fever were handed over to them and they looked after the disinfection of the person and clothing of the nurse or midwife who had been in attendance. Before long we asked them to investigate the house conditions obtaining in autumnal diarrhœa, and as the committee from time to time increased our staff we were able to develop their activities more and more in the second direction indicated in the report.

Now for some four years every death of a child under two

years of age in a certain district of the town, with a population of about 34,000, has been investigated by one or another of our staff of six women inspectors. The district chosen was the one in which infant mortality was highest. In the beginning of 1905 we added to their duties the visiting of every house in the same district in which a child had been born, getting the information as to the birth from the local register under the new rule of the Registrar-General; and during the latter part of the same year we have intrusted them largely with the care of infants in the same district, providing them, through the generosity of a voluntary association, with a supply of bottled milk obtained under specially careful supervision.

I do not propose to say anything more about the duties of the women inspectors in connexion with work-places, except to emphasise the enormous advantage that has accrued to Leeds from that part of their work particularly in connexion with the provision and supervision of sanitary conveniences. Their visits to work-places have enabled them to obtain information about the conditions under which married women in our workshops and to a less extent in our factories are employed. Their visits to houses also, even where simply inquiring into the cause of death of another child, have enabled them to exercise a certain amount of salutary influence in the homes of the district in which they more particularly work. But the chief interest so far as we are at present concerned centres around the assistance rendered in the care of young and living children. Where a birth is reported through the registrar in the particular district to which this part of their work is almost entirely confined, they make inquiries of a more or less general kind into what would be called in a medical report the "family history" of the infant. This inquiry is, of course, more or less for scientific purposes, and so far as it has gone, especially when taken in conjunction with the similar inquiry made in regard to all deaths in the same district occurring in children under two years of age, has thrown considerable light upon the influence of certain circumstances upon the well-being of the child.

It has been made pretty clear to us that the infantile deaths are to a large extent connected with weakness or poverty on the part of the mother. Out of some 1221 cases where we have investigated the family conditions after the death of a young child during the period from April 2nd, 1902, to April 14th, 1906, it was ascertained that the number born to the same parents had been some 5208, whilst the number of those still alive at the time of our inquiry was only 2582, or less than half. In addition the same mothers had given birth to 167 stillborn. We have not, as a rule, found that, at least in this district, the employment of women before their confinement has been associated very specially with the death of their infants. For instance, in the period already mentioned, of the 1221 cases investigated it was found in 199, or 16 per cent., that the mother had been engaged in some employment outside her own house before, though not necessarily close up to, the time of confinement, whereas in 1022 cases, or nearly 84 per cent., this was not the case. Similarly, 122 out of the 1221 began to work soon after the child's birth, but in 1099, or 90 per cent., it was not so. We are rather led to think, although one would naturally not wish a woman to work up to the very time of parturition, that the wage earned by these expectant mothers is perhaps sometimes of considerable value to the health of the coming child and compensates to some extent for the disadvantages of work, at least if the latter be carried on in well-ventilated and carefully cleansed workplaces.

The conditions also of the dwelling-house are themselves of no inconsiderable importance and it is here largely, and especially in regard to cleanliness, that so much can be done in assisting the mothers of the coming race. It is found, as a rule, that if care be taken not to hurt the feelings of those who are visited—if the work be done with tact and discretion—the help we are prepared to offer is welcomed. The new arrivals whom we see are not generally the very youngest and it is here that our work differs in an important manner from the splendid attempt being made in Huddersfield. We rely as a general rule upon the receipt of the information as to the birth from the registrar. The average period from the child's birth to the date of our hearing of it from him we find, during 1905, to have been 42 days and in a considerable number of cases the birth and the death were registered at the same time; whilst in a few and not altogether inconsiderable number of cases the death of the infant has been actually registered before its birth, so that our visit to the house was in consequence of the death rather than of the birth of the infant. Dealing, however, with the cases of the young children of whose arrival we hear in the way mentioned the woman inspector takes a considerable amount of trouble to persuade the mother of the importance of nursing, or of continuing to nurse, the child herself. This difficulty has presented itself. Whilst, as a rule, in this district the mother is quite willing to nurse her child, she not infrequently finds after she begins to get up and go about that she has not the requisite milk to do so. In some cases where this condition has been threatened our inspectors have persuaded her to take herself the milk provided by the Pure Milk Association already spoken of. This action has been followed in many cases by a great benefit.[1] We generally find in a very short time the mother begins to have a larger supply of milk for her child and we regard this method of "humanising" cows' milk as by far the best. A small handbill couched in familiar language is given to the mother and its purport explained by the inspector (see Appendix). It serves not so much as an actual instruction as a text upon which she can found her homily.

We have three of these small leaflets. No. 1 emphasises the importance of breast-feeding and points out how it should be regulated. It advises the mother, for instance, to take a cup of milk or gruel shortly before suckling the infant and deprecates for the sake of the child the use of stout, spirits, or beer. It then goes on to explain that the mother's milk may in some cases be advantageously supplemented by the use of a little pure cows' milk and explains in what way cows' milk differs from the mother's milk. This handbill was prepared before we had the present supply of pure milk to offer to the parents, but the mother is advised that any milk to be given to the baby should be obtained as fresh as possible.

In this particular district, unless from the want of breast-milk just spoken of, we have usually not much difficulty in getting the mother to nurse her own infant. But it is, of course, necessary where the child is older, or where, notwithstanding the good intent of the parent, the suckling cannot be actually carried on, that some attention should be given to artificial feeding. Accordingly leaflet No. 2 deals with boiling milk. It will be readily understood from what has just been said about the supply of pure milk that I am not in favour of boiled milk. Boiled milk, however, is better than poisoned milk, and leaflet No. 2 indicates some reasons why milk is found so often to disagree with the baby and explains in what way the milk may be treated so as to render it less likely to injure the child. The manner described is, in fact, that known as pasteurisation, which has this advantage over ordinary boiling, that the lact-albumin of the milk is not necessarily entirely coagulated and lost, and that the phosphates are not, to the same extent as in boiled milk, rendered insoluble. It will, however, be understood that where the mother or the child is getting the pure milk supplied by the Leeds Association leaflet No. 2 is not always given. It is considered on the whole safer to recommend that the milk be taken from the stoppered bottle supplied by the association and that it be placed in the cleansed feeding bottle along with a sufficient quantity of boiled water and a little sugar, thus representing to some extent, but without the sterilisation, the milk provided by certain town councils. The milk these towns supply has these three advantages: that (1) it is sterilised; that (2) it is supplied in the actual bottles to be used by the child, not therefore requiring to be transferred to the feeding bottle; and that (3) its food value is graduated to suit the infant to be fed. Its disadvantages, as it seems to me, are (1) that it provides sterilised milk, milk therefore deprived wholly or in part of its lact-albumin and in which the phosphates have been rendered largely insoluble; and (2) that the method has not

[1] The milk so taken is, in the first place, unwatered; in the second place, it is reasonably clean, having been collected at a farm under careful inspection, cooled and placed in sterilised bottles by the association, and kept stoppered until actually required for use. Its bacterial content as compared with the milk sold in the shops, often the same shops, but also in other shops in the same neighbourhood, is exceedingly small and specially characterised by the absence of the group of bacilli associated with excrementitial matters so largely found in ordinary carelessly collected milk. As the milk is intended not only for mothers but also for children, the udders of the cows from which it is drawn are examined at short intervals by the veterinary surgeon attached to the corporation so as to secure freedom from tuberculosis.

quite the same educative value. We are trying to teach the mother herself to prepare the milk for the child. We try to explain to her the importance of keeping the milk in a proper place; the necessity and method, under certain conditions of temperature, of herself sterilising the milk, if not that provided by the association, when received; and we try to teach her also the proportion in which cows' milk should be mixed with water and sugar to furnish what the child actually needs.

The third leaflet is intended for distribution where the child is a little older. It represents one or two of the facts about cows' milk and it deals to some extent in a general way with the quantities of milk to be given to the child. In all cases it is advised that if the child be ill or ailing medical advice should be sought, and our inspectors in no way assume to themselves, although acting under the immediate supervision of the medical officer of health, any right to prescribe for a child who is ill or to interfere in any way with the advice already given by any medical practitioner in regard to the dieting of a healthy or ailing child. In the bulk of the cases visited by our inspectors no medical man is in attendance. We also try to persuade the mothers that the milk provided by the association is a food and not a medicine and we think that this actual visiting of the children and influencing their diet must in time conduce to a lessening of the high infantile death-rate in this particular district. The difficulties we labour under are that the children are many and the inspectors few; that even these few have other duties—important duties also—to perform elsewhere.

Amongst the latter, one of some special helpfulness in regard to the work amongst infants has been omitted. Our chief lady inspector is herself a registered midwife and is charged, under the direction of the medical officer of health, with the superintendence of the women upon the register. Her staff assist in the necessary visitation and gain much information serviceable to them in their work amongst infants.

Amongst the conditions that I look upon as desirable in regard to women inspectors are the following:—1. That their salaries should be at least those given to the men doing corresponding work. Our women inspectors, who rank as ward inspectors, begin with a salary of 33*s.* a week, rising at the end of two years to 36*s.* and then to 38*s.* This is quite little enough. Our head inspector has the salary of one of our divisional inspectors. 2. That none of the women inspectors should devote her whole time to visiting babies. It is better for her own health that there should be some variety in her work. For this purpose these ladies take their share in house-to-house work and in workshops inspection and in both sets of duties, as well as inquiring into cases of infectious disease in schools and factories, and in dealing with nuisances in the latter they gain information useful to them in their work amongst infants and their mothers. 3. That they should have opportunities of comparing notes and that they should work under a senior inspector of their own sex of some experience.[2] 4. Lastly, that as women are greedy of work, are self-sacrificing, and often over-estimate their own strength, it is desirable that they should work under medical supervision.

APPENDIX.

Leaflet No. 1 is printed in two pages, 3½ inches by 6 inches. The two pages face one another, and the type is pica. This leaflet is explained by the inspector. Nos. 2 and 3 are intended for the mothers of older children, and of those who cannot be fed naturally. Their sizes are the same. In drawing them up the endeavour to make them short was ever before the writer.

CITY OF LEEDS.

The feeding of infants (No. 1).—The best food for the young child is its mother's milk. Nothing but illness on the part of the mother should prevent the newly born infant from being thus fed. The child should have the breast every two hours till it is two months old, then for the third month about every two hours and a half, after that every three hours.

The child should be put to the breast as soon as it is born. The mother's milk quite at first will cause slight purging. This is good for the child. No castor oil is then needed.

If suckling is begun from the first the mother will generally have as much milk as the baby needs till it is six months old. The mother may take a cup of milk, milk gruel, or milk and water, half an hour before suckling. It is far better for the child that she should not take stout, beer, or spirits.

If the mother's milk is not quite sufficient, the child may have a little cows' milk in addition once or twice a day. Cows' milk is stronger in the "casein" which makes the curd. It should, therefore, have a little water added, and, if possible, a little sugar and cream. Skimmed and separated milk, from which all or part of the cream has been removed, should not be given to children at all.

The milk given to the baby should be obtained as fresh as possible.

Sanitary Offices, Leeds. J. S. C.

[2] I find that ladies when writing to us for information about doing health work—and this was more especially the case at first—inquire if they are to work under the sanitary inspector or the medical officer of health. In many cases an educated woman of the middle classes seems more willing to undertake work under the direct control of a medical officer of health than under that of an ordinary sanitary inspector, however able and well informed.

CATERPILLAR RASH.

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AMONGST entomologists it is quite well known that certain caterpillars cannot be handled with impunity, but that some persons are much more prone to be affected than others. According to Kirby and Spence,[1] this fact must have been known to the Romans, for after remarking that the hairs of several kinds of moth have much the same effect upon the skin as the hairs of the seeds of Dolichicos pruriens, they add: "Of this nature also is the famous pityocampa of the ancients, the moth of the Cnethocampa pityocampa, the hairs of which are said to occasion a very intense degree of pain, heat, itching, and restlessness. It was accounted by the Romans a very deleterious poison as is evident from the circumstance of the Cornelian law 'De sicariis' being extended to persons who administered pityocampa." In a footnote they add that Dr. Nicholais considered that this caterpillar secreted an irritant juice.

Every few years some entomologist suffers from an urticarial rash due to handling caterpillars or their cocoons and many references are made to this subject in the volumes of the *Entomologist*. In November, 1884, a correspondent stated that he had been breeding the brown-tailed moth Liparis (or Porthesia) chrysorrhœa and that upon emptying his breeding-cage he was so quickly attacked by intense irritation of the skin that he rushed off to a surgeon. He had a second similar experience which led him to conclude that he was not suffering from simple nettle-rash but a rash due in some way to the Liparis chrysorrhœa in the pupa state. Dr. Percy Randall (St. Bartholomew's Hospital) in December attributed this irritation to the hairs which form so large a portion of the cocoons of this moth and added, "Country children, who are in the habit of collecting these larvæ, being attracted by their bright colours, are very subject to it. After carrying them home in their handkerchiefs and aprons, they perhaps wipe their faces and necks and forthwith suffer from an acute attack. The hairs on examination will be found sticking out from the skin." In the same journal an interesting paper appeared (January, 1885) by R. South on "Urticating Hairs of some Lepidoptera," in which he referred to the experience of himself and a relative when handling some imagines of Porthesia similis *vel* Liparis auriflua. Some time afterwards he felt an unpleasant tingling about the eyes, the lids became swollen, and large wheals appeared on his throat and neck. The relative, who had also handled the imagines, was not at all affected. He had previously had an acute urticaria after handling the larvæ of the Bombyx rubri. He mentions also that a species of caterpillar found in Brazil gives rise to unbearable pain, inflammation, and swelling if it falls upon the neck. He also quotes an opinion that the hairs of the larva of Porthesia similis are covered with a poisonous liquid exuded from the scarlet warts on the hinder segment but at the same time suggests that as the hairs of the larvæ of the genus Cnethocampa are barbed they may be the cause of the pain and irritation. In the same issue of the journal is a note quoting a paper by Mr. Dimmock (but where published is not stated) on Some Glands which Open Externally on Insects. Some tubercles on the larva of Attacus cecropia secrete an odorous liquid acid to litmus. The hairs break off and an aperture is left in the tubercle through which the liquid exudes. Others think that the liquid is forced through minute apertures in the hairs. Against this theory of an acrid secretion is the experience of persons who have suffered from merely handling the empty cocoons and one case is related in which disagreeable effects resulted from a cocoon which had been exposed to wind and rain for months.

[1] Introduction to Entomology, Section "Direct Injuries caused by Insects."

Mr. W. A. Carter[2] experimented upon himself with various larvæ &c. He found that when the cocoon of Porthesia auriflua was rubbed on the forearm "almost immediately the crimson inflammation appeared, together with excessive itching, and this continued for three hours without cessation, after which appeared small pimples, changing on the second day to white vesicles, which after the discharge of a watery liquid left an appearance of eczema." The Bombyx rubri caused intense irritation, some of the vesicles afterwards becoming pustular. Some of the cocoons getting into the eyes these became inflamed and much difficulty was experienced in opening the lids in the morning. The Arctia caia and Arctia villica caused a little irritation which speedily subsided. The Bombyx quercus caused pronounced primary irritation but the pimples soon became vesicles and on the following day dried up. The Bombyx neustria caused great irritation but no pimples were visible. The Dasychoia pudibunda produced red patches with vesicles resembling those of chicken-pox but smaller. Callimorphia dominula, Gastropacha quercifolia, Saturnia carpini, and Omgia antiqua produced no irritating effects.

Another moth closely allied to the Porthesia similis is found periodically in South-east Essex and East Kent and has recently become common in Massachusetts and New Hampshire, U.S.A. It is called the brown-tailed moth, Porthesia chrysorrhœa, and wherever its larvæ or cocoons are found those who handle them or come in contact with their hairs suffer from an urticarial eruption. The New Hampshire Board of Agriculture has recently issued a profusely illustrated pamphlet on this pest from which it appears that the hairs of the full-grown caterpillar are of two kinds, the long hairs with branches pointing forwards and the short hairs (about $\frac{1}{10}$th of an inch in length) which are distinctly barbed. These minute hairs are shed freely and cause irritation of the skin. Instances are given in which clothes hung beneath a tree infested with the caterpillars caused intensely irritating effects on those who wore them. A physician in Somerville in 1897 had nearly 100 cases under treatment, all suffering from severe urticaria due to the hairs of this caterpillar.

During June last I saw about 20 cases of rashes produced by caterpillars. On June 16th I received a letter from a village schoolmaster saying that "several children have got a nasty rash on their faces. I have sent them home. ..... The eyes water and swell and the rash looks at first exactly like nettle stings. It is spreading quickly." My assistant, Dr. J. F. Beale, went immediately to make inquiries and finally concluded that the rash was due to some local irritant, since only the face and hands were affected and there were no premonitory symptoms save irritation before the rash appeared. The only circumstance common to all was that the children had been collecting caterpillars. Every child affected had been playing with these animals which swarmed in the hawthorn hedges near the school and apparently every child who had collected them or handled them was attacked. The more intelligent children explained that soon after touching the caterpillars their hands and faces itched and caused them to rub the irritated parts. Within two or three hours the parts became red and when the attention of the mothers was called to the redness it usually resembled nettle stings. At a later stage, when seen by us, portions of the hands and patches on the cheeks were uniformly inflamed and covered with minute pimples. Similar pimples, but more discrete, were found on the neck as far as the collar; only in one case were any spots found on the chest. In two or three instances the eyes were affected, the conjunctivæ were suffused and the lids were puffy. In about three days the rash disappeared entirely. The caterpillar implicated is that of the yellow-tailed moth, Porthesia similis, and in the hedges near the school they are so abundant that hundreds can be collected in a few minutes. The following description of this caterpillar is taken from Meyrick's "British Lepidoptera": "Larva black; dorsal line, double, red; black white-marked protuberance on 5th, 6th, and 12th segments; red tubercles on the 10th and 11th; a subdorsal series of white marks; lateral line red. Common in Britain; on hawthorn, rose, and poplar. From September to June." The fully developed larva is about one and a quarter inches long and I am informed by Mr. Horrell, the biologist to the Essex county council, who has kindly looked out many references bearing on the subject, that there are five distinct stages of its existence and that it is only during the fourth and fifth that it is capable of producing any irritating effects. During these latter stages the animal sheds its hairs freely and these are found in abundance at the bottom of any box in which they are kept, and if allowed to crawl over paper or glass a powerful lens shows a trail of hairs of two kinds. The long ones are those which project in bunches from the tubercles, are pointed, and possess a few lateral spines or branches. These do not appear to be hollow but when the animal crawls over pieces of reddened litmus paper bright red dots of minute size are produced apparently from contact of these hairs with the paper. Besides these simple long hairs these are exceedingly minute hairs about $\frac{1}{250}$th of an inch in length barbed along their whole length. It is to these very minute hairs that I attribute the production of the rash, but I am inclined to think that the larger hairs may possess "stinging" properties. The sub-dorsal series of white marks are covered with very small plumose hairs, which are not barbed and, therefore, probably take no part in the production of the rash. These do not appear to be shed by the animal when crawling.

During the last few days correspondents have furnished me with accounts of rashes from which they or their children have recently suffered from handling caterpillars, and from the description given evidently these were the larvæ of Porthesia similis. One gentleman sent me specimens of this caterpillar stating that his children had had a rash after playing with them in the garden. A correspondent from Havre says that a tree in the garden of a house at which he is staying was so infested with caterpillars that he himself picked off about 400 and five other inmates of the house picked off numbers. All who had assisted afterwards suffered from a rash. My correspondent suffered most. "On the day following," he says, "I was full of pimples and itching came on very bad and there was a swelling under my chin as large as an egg." He consulted a medical man who attributed the eruption to the eating of fish but as the eruption did not appear on all the eaters of fish whilst it did appear on all who had been collecting caterpillars he thinks that the diagnosis of the medical man was wrong, more especially as the gardener had assured him that the caterpillars were the cause. The gardener said that a fine powder drops off the animals and gets on to the skin and under the finger-nails of those handling them and that the rubbing and scratching to allay the itching gives rise to the pimples and swelling. In this particular instance the eruption appeared three weeks ago and the effects have not yet entirely disappeared. I allowed one of the caterpillars of the Porthesia similis to crawl over the back of my hand and it produced no effect but both my assistant and myself experienced much irritation of the eyes after dissecting off the hairs for microscopic examination and the conjunctiva of one eye of my assistant was distinctly inflamed.

I learn that a firm of cocoa manufacturers are distributing broadcast to the public elementary schools natural history cards each bearing a richly coloured representation of a moth or butterfly and its corresponding caterpillar and having a brief account of the life-history of the animal. Children are collecting caterpillars in order to see the wonderful transformation into a butterfly, hence if no note of warning is sounded cases of caterpillar rash will become more frequent.

Chelmsford.

[2] The Entomologist, February, 1903.

ON SOME OF THE PSEUDO-PARASITES OF CANCER.[1]

BY ALBERT S. GRÜNBAUM, M.A., M.D. CANTAB., F.R.C.P. LOND.

THE pseudo-parasites may be roughly classified as resulting from (*a*) cell degeneration; (*b*) cell inclusion of either leucocytes or other cells; (*c*) cell derivatives, e.g., the spermatid vesicle; and (*d*) non-specific organisms. While the appearances included under these headings have nearly all been seen for quite a long time, yet of some the true explanation has only recently been forthcoming as a result of the fundamental investigations of Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E Walker. Their proper classification is often difficult and may frequently afford

[1] Abstract of a paper read before the Leeds and West Riding Medico-Chirurgical Society.

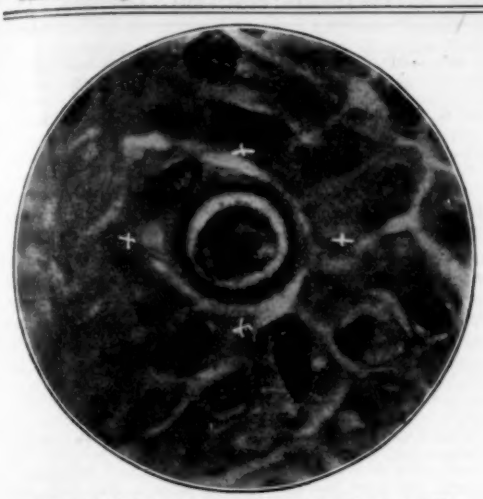


FIG. 1.—Included cell degenerating and shrinking. × 1300.

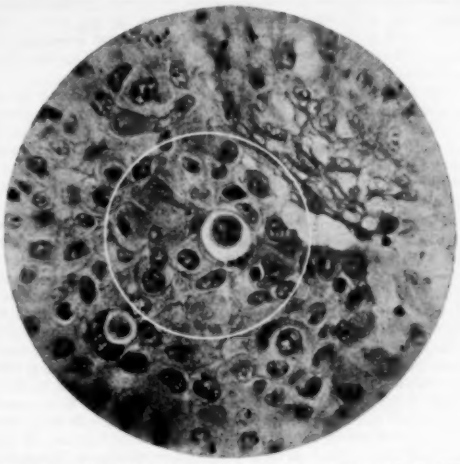


FIG. 2.—Included cell lying within vacuole in another cell. × 600.

FIG. 3.—Included cell dividing. × 130.

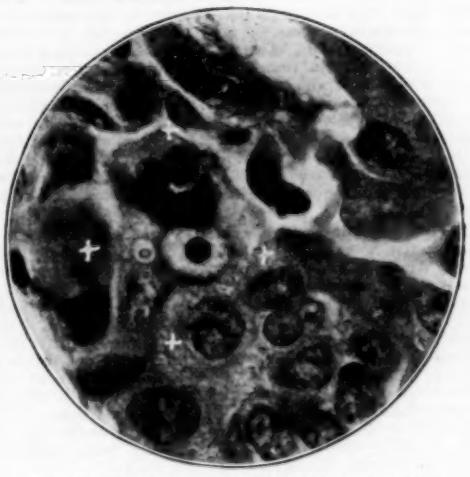


FIG. 4.—Cell showing "spermatid vesicle" and nuclear degeneration. × 1300.

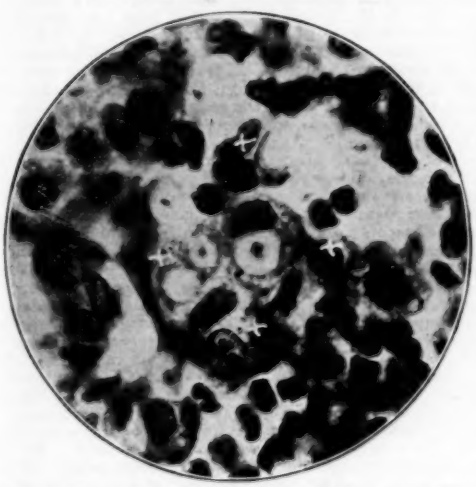


FIG. 5.—Yeast cell included in pulmonary cell of mouse. × 1300.

FIG. 6.—Cell degeneration simulating Fig. 5.

ground for difference of opinion. Thus, to my mind, even Ruffer and Plimmer have classed under one heading conditions which seem to me to belong to classes (*a*) and (*b*) or (*a*) and (*c*) together.

Cell degeneration may affect either the cytoplasm or the nucleus and nucleolus, or all. Under favourable conditions every stage from mere shrinkage of the cytoplasm from the cell wall to the formation of a hyaline mass of chromatin within a vacuole may be observed (Figs. 1 and 2). The details of the process have often been examined, recently again by Apolant and Embden and by Unna.

Cell inclusion; leucocytes.—That leucocytes may become included and their cytoplasm and even their chromatin fuse with the corresponding constituents of cancer cells is an old observation of which the importance was first recognised by Klebs. He founded upon it the hypothesis that cancer might arise from the fusion of a leucocyte with an epithelial cell. He also noted their special prevalence in the dividing cells of young tumours, to which cells he thought the leucocytes had provided the stimulus for multiplication. The observation of Mr. Moore and Mr. Walker of included dividing leucocytes (sometimes with only half the somatic number of chromosomes) within dividing cancer cells lends additional interest to this hypothesis. The number of such ingested leucocytes is much greater where inflammation accompanies the new growth—i.e., in epithelial than in glandular tumours. In such cases, especially since in many instances several leucocytes may be seen in one cancer cell, the inclusion may mean no more than it does in certain forms of inflammation. The subsequent fate of these leucocytes is not easy to trace. Mr. Moore and Mr. Walker agree with Klebs, and especially emphasise the occasional confusion of the spindle figures with a resulting mixture of the chromosomes. Not uncommon are cancer cells included within other cancer cells. They may then both be in a state of rest, or either of them may be dividing, but usually the included cell. It is then generally larger than the ordinary cancer cell, as if it had assimilated some of its host.

The process of inclusion provides an explanation for certain characteristics of some cancer cells. First, of their large size. Where fusion of two or more cells has occurred the resulting cell must be of more than average size. Secondly, the occurrence of hyperchromatosis. Supposing an ordinary cancer cell to unite with another and then to divide; a cell with 64 chromosomes might result, or if a cell with a reduced number fused with an ordinary cell the resulting number might be 48. If, on the other hand, the fused cells underwent a reduction division a heterotype nucleus with 32 or 24 chromosomes might be formed. In the matter of the leucocyte-epithelial cell combination such speculations and the resulting observations have already been made by Professor Farmer, Mr. Moore, and Mr. Walker.

Under the heading of *cell derivatives* are included those vesicular bodies, sometimes termed Plimmer or bird's-eye bodies, which Mr. Moore and Mr. Walker have shown to correspond to the vesicles of the spermatid archoplasm. These may co-exist with an ordinary nuclear degeneration which may simulate a later stage of the vesicle (Fig. 4). It is thus easy to realise how structures of different origin may be classed under one head. If this vesicle be the homologue of a similar one in the spermatid it seems not unreasonable to assign to a cell containing such a body spermatozoal functions, and these seem partly to be exercised when one cancer cell becomes included within another. Finally, a *non-specific parasite* may produce similar appearances. In the lung of a mouse fed on a blastomycete isolated from a human mammary cancer included yeast cells could frequently be seen (Fig. 5).

References.—Klebs: Allgemeine Pathologie, vol. ii., p. 524 et seq. Apolant und Embden: Zeitschrift für Hygiene, 1903, vol. xiii. Farmer, Moore, and Walker: Proceedings of the Royal Society, vol. lxxvii., p. 336. Walker: Transactions of the Pathological Society, 1905, vol. lvi., p. 372.

Leeds.

WINSLEY SANATORIUM.—The residents of Taunton are making an effort to secure three beds in the Winsley Sanatorium for Consumptives. Sir E. Boyle, M.P., has given £300 for one bed and it is hoped to raise another £600 to procure two more beds. Annual subscriptions are also being solicited so as to raise £195 per annum for the maintenance of the three beds.

A CASE OF ACUTE RHEUMATISM; HYPERPYREXIA; RECOVERY.

BY E. BERTRAM SMITH, M.R.C.S. ENG., L.R.C.P. LOND.,
OBSTETRIC ASSISTANT, UNIVERSITY OF LIVERPOOL; LATE SURGEON TO THE CUNARD STEAMSHIP CO., LIMITED.

ON March 7th, 1905, an engineer, aged 54 years, came to me on board ship complaining of pain and swelling of both wrists. He gave me the following history. He had been quite well until the summer of 1904, when he had an attack of subacute rheumatism, necessitating a three weeks' stay in bed, followed by three weeks' treatment at Harrogate, by the end of which he felt quite well. In November, 1904, he had some return of pains in both wrists and the left shoulder for about a week. One cold, snowy day in New York a week previously to the onset of the present illness he had felt some pain in his right wrist. He was a strongly-built, heavy man. There was nothing to note in his chest except slight emphysema. The heart's apex beat was in its normal position and the heart sounds were natural. Both wrist-joints were red and swollen and hot and tender to the touch, and there was considerable effusion into both joints. There was also some tenderness but no perceptible swelling over both ankle-joints. There was no gonorrhœa. In spite of 15 grains of sodium salicylate every four hours his condition did not improve during the next four days but rather grew worse, his metacarpo-phalangeal joints becoming involved and his temperature remained between 101° and 102·6 F. Sulphate of quinine (five grains every four hours) and full doses of sodium bicarbonate gave no better result. His mental condition all this time was quite clear. His urine was of specific gravity 1008, neutral, and contained no albumin. On the night of March 13th his temperature was 103°.

In the early morning of March 14th (the eighth day of illness) the pain was still more intense, causing him to cry out, I was told, but when I saw him at 10 A.M. he was sleeping lightly, so I did not disturb him to take his temperature, an omission I afterwards very much regretted as I was unable to return to him until 1 P.M. He had been dozing all the morning but had often been aroused by exacerbations of pain and had conversed with his attendant until *only five minutes previously*. Noticing an altered facies I attempted to rouse him but found that I was only partially able to do so, so I immediately took his temperature in the mouth and found it to be 107·2°; his pulse was 128 and, though regular, was weak. As a bath was not at hand I immediately sent for ice and put the patient into an ice-pack. These preparations took 15 minutes, during which his temperature had risen further to 109·3° in the rectum and he had become quite comatose; his pulse was about the same. My thermometer was a good one and these observations were corroborated by Dr. Arthur S. Corwen of New York who gave me very valuable assistance at this juncture. At 1.15 P.M. the ice-pack was applied and after the initial momentary shock his pulse began to improve rapidly, so that no cardiac stimulant was necessary. At 1.45 P.M. it was 108 and much stronger. At about the same time he quite suddenly regained consciousness, with the remark: "Are you making a laundry of me?" At 2 P.M., after three-quarters of an hour of the pack, his rectal temperature had dropped to 107°, so the ice was discontinued. At 2.30 P.M. his rectal temperature was 105·6° and at 3.30 P.M. it was 102·8°. My note then was: "He lies dozing, mentally clear, and says that he has only a little stiffness in hips and knees but no pain, even in his wrists, which had been so acutely painful early this morning." By 8 P.M. his temperature had risen to 103·8° and the pulse was 102, so, fearing a further rise, I sponged him with ice-cold water for 15 minutes, reducing the temperature again to 103°. This sponging I continued nightly for the next three nights at his own request, as he felt so much refreshed by it, although no further rise of temperature rendered it necessary. On the next day (March 15th) his axillary temperature varied from 102° to 102·4°, the pulse was 90, and the joint symptoms were as on the previous night. On the 16th the temperature ranged from 101° to 102°; the pulse was 84 and good. He was feeling stronger and still had no further joint pains. On the 17th, in the morning, he complained of a slight return of pain in both wrists and they were more swollen again; 15

grains of sodium salicylate and 10 grains of sodium bicarbonate were given; drug treatment during the time of absence of pain had been confined to 20 grains of sodium bicarbonate and one drachm of strong solution of acetate of ammonia every four hours during the day.

In the afternoon we arrived at Gibraltar and I accompanied the patient to the Civil Hospital and he showed no signs of exhaustion after the journey which included nearly half a mile in a hand stretcher, the approaches to the hospital being too steep to allow of the use of a wheeled vehicle of any kind. He was in hospital over five weeks under the care of Dr. W. Turner of the Colonial Service who very kindly gave me the following particulars. His temperature kept up between 101° and 103° for over three weeks, once rising to nearly 104°, and he had a great deal of pain in various joints which, as before, reacted very badly to drugs. His condition gradually improved and at the end of five weeks he was convalescent, leaving the hospital on April 25th. On July 4th he rejoined the ship and recommenced his duties as an engineer and was then only complaining of stiffness in his left shoulder and was unable to raise the upper arm above the horizontal. All his other joints and his heart were normal and when I saw him in August his shoulder was improving. I saw him again in March, 1906, when he had no stiffness anywhere and felt perfectly well.

I have only been able to find two cases recorded in the British literature of recovery after so high a temperature had been reached in rheumatic hyperpyrexia and in both of these cold baths had been employed. One is the case reported by Dr. Wilson Fox[1] in his original paper advocating the cold bath treatment, in which the temperature rose to 110°. The other is quoted by Mr. F. T. Paul of Liverpool,[2] in which the temperature rose to 109·6°. A case referred to by Sir William Church in Dr. T. Clifford Allbutt's "System of Medicine,"[3] of recovery after a temperature of 111° was found to be incorrect on referring to the original report.[4]

In this case I feel sure recovery was due to the early stage at which it was possible to apply ice after the onset of alarming symptoms. In this direction one is more advantageously placed on a large modern Atlantic liner than in a country practice on land.

Liverpool.

A NOTE ON THE TREATMENT OF CATARRHAL AND GANGRENOUS DYSENTERY.

BY C. B. SHELDON AMOS, M.B. LOND., L.S.A.

(From the Hospital at El Tor.)

IN the course of four years' work in the quarantine camp at El Tor (Sinai) a large number of cases of dysentery have come under my observation, season by season. During this time I have carried out all the recognised methods of treatment, the serum treatment excepted, in definite series of cases and I have finally arrived at some conclusions which may possibly be of interest to others. The rarest but most hopeful form we have to deal with is one in which there is a history of diarrhœa for one day and on physical examination slight fever, a dry red tongue, rapid pulse, slightly tender abdomen, and frequent very scanty, mucous, bloody stools which contain no fæces. This slight form of the disease yields readily to the usual sodium sulphate treatment—i.e., four grammes of sodium sulphate administered hourly until a fæcal stool is passed. This treatment is repeated on successive days until tenesmus is no longer complained of, and neither blood nor mucus is passed. The diet for such cases will be described later.

The second form is very severe, with a very bad prognosis, and at the necropsy the large intestine is generally shown to be gangrenous. The patients have been ill from six to 30 days and are exhausted, the pulse is feeble, the tongue is dry and coated, the abdomen is hollow, with large tender lumps in either or both of the iliac fossæ and tender swellings all along the colon. The stools are profuse, fæculent, and most offensive and they often contain sloughs and much slimy mucus. Here our treatment varies according to the general state of the patient; a young well-nourished man who is able to sit up and talk will react almost immediately to ipecacuanha administered by Manson's method. The patient has nothing to eat from midnight to 4 A.M. when 20 drops of laudanum are given and half an hour later between two and four grammes of ipecacuanha in capsules. No food or drink is given until 7 A.M. Usually a young patient bears this treatment well; he may vomit once or twice but usually not before the drug has had time to produce its effect. I have seen patients with copious bloody stools and large inflammatory lumps in both iliac regions recover with two successive doses of ipecacuanha given on successive nights; this drug treatment is associated with the peculiar form of diet which I will now describe.

All our patients are Africans, Asiatics, or Turks and nearly all of them evince a very great repugnance to milk diet, frequently starving themselves for days rather than take it. Moreover, unless the milk is greatly diluted hard curds constantly appear in the patients' stools. I have therefore abandoned a fluid diet in all cases of dysentery and have recourse to a drier diet which the patients relish and take readily even when in a most serious condition. They receive half a pint of milk at 7 A.M., when those without hæmorrhage also have a small piece of bread; at 11 A.M. a plate of finely mashed rice, potatoes, lentils, macaroni, or beans, over which a little meat soup has been poured, is served round. Convalescents also have a small piece of bread. At 5.30 P.M. they have a similar meal. During the night they have a pint of milk diluted with water to the patient's liking. Those who are very weak have in addition each day the whites of four eggs beaten up with brandy or water. The yelks of eggs they cannot digest. No pure water is given but a 1 in 3000 solution of lactic acid is placed at the bedside for them to sip at will. With this dietary blackened tongues become moist and clean in one or two days, thirst disappears, no undigested food appears in the stools, and no difficulty is found in inducing the patients to take nourishment.

To return to the medicinal treatment of those patients too old or feeble to sustain ipecacuanha, in previous years we administered calomel, both in large doses (30 centigrammes three times a day) and in small doses (one centigramme at three successive hours). My experience is that in dysentery the drug is a pernicious one; very large frequent stools are passed which are full of bile, the patients are exhausted by the consequent frequent disturbance and hæmorrhage, and they subsequently collapse. Small doses I have found to operate far more actively than large ones. I have come to regard complete rest procured by opium exhibited in some form or other as the one essential in treatment in cases where there is hæmorrhage or very frequent stools. In the few cases where these old chronic cases have recovered the patients have been kept absolutely quiet for days by injections of morphine; their consciousness is not affected; they suffer less from thirst than patients treated by other methods; tenesmus and cramp are suppressed, and none of the special symptoms due to morphine (viz., anuria, contraction of pupils, sweating, or coma) were observed. My usual method is to inject one-quarter of a grain of morphine hypodermically if necessary every four hours; if not, every eight hours I have found it advisable simultaneously to inject sparteine or caffeine, in order to combat the general tendency to cardiac exhaustion. I use sparteine also in many cases where no opium has been given. Digitalis I have so far found useless in the heart failure often accompanying dysentery.

I have seen some marvellous recoveries in patients treated by opium; some men who had passed streams of pure blood from 15 to 20 times a day, and showed large tender swellings all over the colon and abdomen, recovered. Peritonitis is the most serious complication in these cases and then heart failure and pneumonia. I must say definitely that deaths from these three causes were more frequent and distressing before I began the opium treatment than afterwards. I have only seen toxic symptoms due to opium in one patient; he was a middle-aged man in an emaciated, depressed state who suffered severely from hiccough and distension of the abdomen, but stoppage of opium for 12 hours, drop doses of oil of cloves, and turpentine stupes to the abdomen completely remedied his temporary poisoning and he subsequently recovered from the dysentery. These patients also take well the dry diet described above.

Injections of all kinds I have found occasionally useful in

[1] THE LANCET, August 12th, 1871, p. 213.
[2] Liverpool and Manchester Medical and Surgical Reports, 1876, p. 246, from Guy's Hospital Gazette, vol. v., No. 16.
[3] Edition 1897, vol. iii., p. 25.
[4] Dr. M. Finny, THE LANCET, July 4th, 1885, p. 17.

slight very chronic cases where frequent pea-soupy stools are passed and yet the general condition of the patient is good. In any acute case they exhaust the patient too much without producing any good result. I have used oxygenated water, copper sulphate, potassium permanganate, iced water, and perchloride of mercury. Of these copper sulphate in a solution of 1 per 1000 is perhaps the best, but injections, in my opinion, are dangerous remedies in dysentery, especially when the intestine is gangrenous. Silver nitrate, either in pill form or injected, has proved useless. Surgical interference appears to me quite out of the question, as at the necropsy the large intestine is always found deeply and universally ulcerated, showing scarcely a square inch of healthy mucous membrane. After four seasons' study of this disease I am of opinion that even in apparently hopeless cases of dysentery a certain number of lives may be saved by systematic morphine treatment.

I have to thank my chief, Dr. M. Armand Ruffer, for the initial idea of the free and systematic use of opium in dysentery and for much advice in carrying out other forms of treatment.

Alexandria.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON TWO CASES OF SCLEROMA NEONATORUM OCCURRING IN TWINS.

BY BERTRAM ADDENBROOKE, M.D., B.S. DURH., M.R.C.S. ENG.

A MULTIPARA was delivered at about 4 A.M. on May 17th, 1906, of twins—a boy and a girl—(separate placentæ), both apparently quite strong and healthy, crying lustily after division of the cords, but small, for the woman did not expect to be confined till a month later. The mother and father are quite healthy, as are also their near relatives, and the other child, a boy, aged five years, is, and always has been, strong. The mother states that she menstruated regularly every month after giving up nursing this boy till she became pregnant. She did not go out to work, only performing her household duties, and was able to have good nourishing food the whole duration of her pregnancy. She has never had any miscarriages. On May 19th I was called in to see the little girl and found that the feet were very much swollen, hard and waxy in appearance, and pitting very little with deep pressure. The child was very somnolent and refused the breast, the milk in which had appeared the previous evening, and which she had taken early that morning. The temperature was 97° F. and the pulse was 90. Later in the day I saw the child again and this curious condition had spread up the legs and thighs to the middle of the abdomen and by the next morning involved the head and upper extremities. On this day I found the same condition commencing in the feet of the other child and this gradually spread in the same way, with similar drowsiness as in the girl. The latter died on May 20th in the evening and the boy on the 23rd.

On May 20th I requested Dr. A. W. Wilson-Smith (house surgeon to our hospital) to see the children as the cases seemed so peculiar and asked him to suggest a term with which to fill in the death certificates, for the children were obviously dying. Neither of us had the remotest idea what the disease was and he suggested "œdema neonatorum," little knowing at the time how near he was to the correct nomenclature. I regret that I did not act on his suggestion but filled the certificates up "Debility from birth," for since then by perusing Clifford Allbutt's excellent "System of Medicine" we have been able to give the disease its correct name. The parents would not allow a post-mortem examination, nor even allow me to take a small wedge-shaped piece from the œdematous parts for micro-copical examination.

I fear that these notes are somewhat lengthy but the rareness of the condition, enhanced by the fact that it occurred in twins, the one three days after the other, must be my apology. If any of the readers of THE LANCET can throw any light on the pathology of this rare condition I should be much obliged.

Kidderminster.

A NEW SUB-SPECIES OF GLOSSINA PALPALIS ON THE UPPER CONGO.

BY A. YALE MASSEY, B.A., M.D. TORONTO,
MEDICAL OFFICER TO TANGANYIKA CONCESSIONS, LIMITED, CONGO FREE STATE.

AT the junction of the Lufupa and Lualaba rivers, about 10° S. lat., have been found specimens of the sub-species glossina palpalis Wellmani. This variety was first observed last year near Benguella on the West Coast. It has also been met with on the west shore of Lake Mweru and at the junction of the Dikulwe river with the Lufira. It is interesting that the type glossina palpalis found on the Lower Congo and in Uganda does not seem to be present here. Isolated cases of sleeping sickness occur but trustworthy evidence as to the locality in which the disease was contracted is wanting. Further inquiry is being made.

Ruwe, Congo Free State.

A CASE OF PLAGUE WITH UNUSUAL EYE SYMPTOMS.

BY PHILIP REES, M.B. LOND.

SPORADIC cases of plague are always to be found in the neighbourhood of Canton. This year the usual spring epidemic has been one of exceptional virulence and noticeable for the number of unusual forms of disease. In one patient, a little boy, both groups of submaxillary glands were elevated into a hard infiltrated mass, resembling a widespread cellulitis. On the other hand, many cases have shown no palpable glandular enlargement. On one or two occasions the chief sign beyond fever and the characteristic "restless intoxication" has been a blood-stained discharge from the nose. This is rightly regarded by the natives themselves as of fatal import. The following case, that of a Chinese woman in the town of Fatshan in South China, presented some interesting and unusual eye symptoms. I was not called until the ninth day but learnt that the first symptom had been repeated vomiting, accompanied by pain and swelling in the left arm just above the elbow. On the sixth day there was abortion of a three months fœtus. On the eighth day there was swelling in the region of the right superficial femoral glands. Upon examination of the patient on the ninth day I found that the gland primarily affected was the internal supracondylar. It was surrounded by much inflammatory œdema and showed signs of softening. The arm itself was œdematous. One of the right superficial femoral glands was enlarged and tender. At the same time I saw one of the patient's children who was thought to be slightly indisposed. He proved to have a small bubo in the axilla and the disease made such rapid progress as to cause death five hours later. At first the woman made good progress under treatment. On the eleventh day the supracondylar bubo burst and gave exit to the usual sloughy discharge. The woman was complaining of dimness of vision and on examination, in addition to the customary conjunctival hyperæmia, the pupil of the left eye was found to be small and inactive and totally occluded with lymph. There was also slight hypopyon. There was no injection of the anterior ciliary vessels. The right eye showed three distinct patches of lymph in the anterior chamber on the posterior surface of the cornea. Atropine was instilled and after some difficulty the pupil dilated. The lymph deposits gradually diminished and after about a week had entirely disappeared. The woman refused to have the femoral gland lanced and it burst of its own accord on the twenty-third day of the disease. Unfortunately, at this stage the family began to show dissatisfaction at the delay in recovery and a native doctor was called in. He at once removed fomentations and replaced stimulants with some of the weird concoctions which have been employed in China from time immemorial. I was summoned again on the twenty-fifth day of the disease and found the woman at the point of death.

No attempt was being made to absorb the discharges. There were puffiness of the face and twitching of the tongue and mouth. The woman was experiencing difficulty in micturition. There was a blood-stained discharge from the vagina. The pulse-rate was nearly 150. On the back there was a black, sloughy bedsore. Death took place on the same evening.

Marked but evanescent eye symptoms, such as those described above, appear to be a very unusual feature of plague. Iritis and irido-cyclitis are rarely seen. In addition the above case is noticeable for the primary involvement of the supracondylar gland and the involvement nine days later of a femoral gland which on bursting gave exit to the typical discharge.

Fatshan Hospital, South China.

A Mirror OF HOSPITAL PRACTICE BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

A CASE OF PRIMARY PNEUMOCOCCAL PERITONITIS.

(Under the care of Dr. A. E. GARROD and Mr. F. J. STEWARD.)

FOR the notes of the case we are indebted to Dr. H. J. D. Birkett, house physician.

A girl, aged four years, was admitted to the Hospital for Sick Children, under the care of Dr. Garrod, just before midnight on July 4th last. The patient was in good health till 9 P.M. on July 1st when she complained of feeling cold. About three hours later vomiting and diarrhœa set in, accompanied by severe abdominal pain. This attack was attributed by the mother to some gooseberry tart eaten at midday on the 1st. On the 2nd some medicine was obtained from a druggist which stopped the diarrhœa and vomiting. The abdominal pain continued. On the 3rd the pain continued and the vomiting recommenced. A medical man was called in and he found a temperature of 103° F. On the 4th the patient was worse and was taken to hospital. She had been delirious on and off since the 2nd and for the last 36 hours the mother had noticed that the abdominal pain was less marked after the patient had emptied her bladder. There was nothing of importance in the past or family history of the patient.

On admission the child was quite delirious and so extremely restless and irritable that a thorough examination was almost impossible. The abdominal facies was well marked. There was a divergent squint and the alæ nasi were working slightly with respiration. There was no evidence of mastoid disease. In the chest there were a few crepitations heard over the left base behind. Nothing else abnormal was found. With regard to the abdomen there was no distension; movement was present, though not good. There was general tenderness, but when the child was momentarily at rest no rigidity could be made out. Rectal examination was negative. A small, loose, brown, offensive motion, the first since July 2nd, was passed immediately after the examination. The temperature was 100°, the pulse was 160, and the respirations were 40. The urine was normal. Morphine was administered hypodermically, and when this had taken effect the abdomen and rectum were again carefully examined but no further information was gained. On the 5th the patient was seen by Dr. Garrod and subsequently by Mr. Steward in consultation. There was still no abdominal distension but there was more resistance and movement was absent. There was a small amount of free fluid in the peritoneal cavity. The optic discs were examined and found to be normal. The temperature was 99·4°, the pulse was 132, and the respirations were 28. A diagnosis of diffuse pneumococcal peritonitis was made and Mr. Steward performed a laparotomy during the afternoon. A good deal of thin pus was evacuated and gauze drains were inserted. Pneumococci in pure culture were grown from the pus found at the operation. The patient died on the same evening.

Extract from post-mortem notes.—There was early otitis media on both sides of the head. As to the thorax, in the right pleural cavity there were about one ounce of thin pus and some flaky masses of lymph, while the right lower lobe was coated with a similar layer of pyo-lymph. The lungs were congested and œdematous but not solid anywhere. There were many hæmorrhagic infarcts in the left lung. With regard to the abdomen, there was early general peritonitis. No attempt had been made to shut off the inflammatory process, the only adhesions being a slight sticking together of the intestines in a few places. Thin pus bathed the whole of the contents, forming here and there sheets of pyo-lymph, notably around the spleen and on the superior surface of the liver. There was no local focus discovered, the appendix and intestine being free from ulceration or necrosis. At the necropsy pneumococci were obtained in pure culture and found in films from the heart's blood and in smears from the pleural pus and spleen.

Remarks by Dr. BIRKETT.—If justification be needed for the publication of this case it will be found, I think, first, in the comparative rarity of the disease; secondly, in the extreme difficulty of its diagnosis, a difficulty so great that Michaut[1] in 1901 stated that on one occasion only had the diagnosis been made; and, thirdly, in view of the study of pneumococcal peritonitis in children, by Annand and Bowen, which appeared quite recently in THE LANCET.[2] The history of the case and the child's general appearance on admission suggested a severe attack of gastro-enteritis, though the extreme restlessness of the patient and the cessation of the diarrhœa two days before were against this diagnosis. On the following day the lack of abdominal movement, the presence of free fluid, and the pain occasioned by a distended bladder, combined with the general aspect and extreme restlessness of the patient, were sufficient evidence of peritonitis. The cause of the peritonitis was diagnosed partly by the resemblance of its onset and course to other known cases and partly by exclusion of other possible causes. I have met with two previous cases of primary pneumococcal peritonitis. These cases have not been published and are therefore not included in Annand's and Bowen's statistics. The first was admitted to St. Bartholomew's Hospital during the early part of last year and was diagnosed as, and operated on for, appendicitis. The second case died in this hospital last March, the condition not having been suspected during life. During the last ten years there have been, so far as I have been able to ascertain, five other similar cases in the wards of this hospital. One was operated on for peritonitis, but its cause was not suspected until the pathologist's report was received, whilst in the other four the diagnosis was made at the necropsy.

I am indebted to Dr. Garrod and Mr. Steward for permission to publish the case.

RADCLIFFE INFIRMARY, OXFORD.

A CASE OF INTESTINAL OBSTRUCTION, WITH ENORMOUS DISTENSION OF THE CÆCUM.

(Under the care of Dr. E. C. BEVERS, assistant surgeon.)

THE patient, a man, aged 67 years, was admitted to the Radcliffe Infirmary, Oxford, on Dec. 5th, 1905. He was very deaf, so that it was extremely difficult to obtain information from him, but the following facts were elicited. He had suffered from obstinate constipation for several years; this had been aggravated for the last ten months, during which period he had had some pain in the abdomen and one or two attacks of diarrhœa. The patient stated that for seven days previous to his admission to the hospital he had passed nothing by the bowel, but he had been given two injections, the first of which brought away a little fæcal matter. On several occasions during the last six days he had been sick, the vomit being black in colour and the abdominal pain had increased. We are indebted to Dr. Bevers himself for the following notes and remarks.

On admission the pulse was 112, the respirations were 26,

[1] Gazette des Hôpitaux.
[2] THE LANCET, June 9th, 1906, p. 1591.

and the temperature was 98° F. The patient had the aspect of one suffering from malignant disease; he was a little cyanosed, seemed to have some trouble with his breathing, and was complaining of abdominal pain. On examination there were general abdominal distension and very little movement of the abdomen with respiration. No peristalsis could be observed; the abdomen was tender and tympanitic all over on percussion, the liver dulness being encroached upon to a considerable extent. On making a rectal examination I found some ballooning of the rectum which was empty of fæcal matter. No growth could be felt. From the patient's appearance, age, and from his history of prolonged constipation with attacks of diarrhœa, and from the ballooning of the rectum, I thought that I was probably dealing with a case of intestinal obstruction from a malignant growth.

Following the diagnosis which I had made of a malignant growth either in the upper rectum or the pelvic colon I made an incision on the left side low down over the linea semilunaris big enough to explore the abdomen through it and in a situation where a colotomy could be rapidly performed if necessary. The left rectus muscle was drawn inwards and the peritoneal cavity opened; there was at once an escape of gas with a fæcal smell; the small intestines which came to view were slightly injected but in no way distended. There was at first some difficulty in finding the pelvic colon; it did not present in the wound as it often does in these cases; during the exploration a hard growth just at the brim of the pelvis was come upon; this proved to be in the pelvic colon. The reason that it had not been found before was that the descending colon was passing straight down over the brim of the pelvis into the rectum, there being practically no pelvic colon or mesocolon. As these portions of the great intestine far from being distended were contracted I came to the conclusion that although I had found the growth I must look further for the real cause of obstruction. Passing my hand over to the right iliac fossa I found a large distended bag-like body extending down into the pelvis which I was unable to move and on withdrawing my fingers there was a distinct fæcal odour attached to them. I therefore made a further incision over the right iliac fossa and found an enormously distended cæcum and ascending colon. The major portion of the was of the cæcum was necrotic and sloughing but there was no actual hole through which fæcal matter could escape. The distended colon and cæcum occupied the whole of the right flank, right iliac fossa, and passed down into the pelvis. The appendix was healthy and perched on the top of the cæcum like a night cap. The distension ceased abruptly at the hepatic flexure; beyond here the great gut was small and contracted down to the rectum. Though nothing could be felt at the hepatic flexure I concluded that there must be some condition which was producing obstruction at that point. As nothing more could be done I stitched the necrotic portion of the cæcum in the abdominal wall and opened it, evacuating large quantities of fæcal matter. The patient lived for two days and then died from bronchial trouble.

Necropsy.—At the post-mortem examination the following condition was found by Dr. James Ritchie. There were two operation wounds, at one of which part of a gangrenous cæcum was protruding. On opening the abdomen there was found to be a growth of the sigmoid flexure occupying two and a half inches of bowel. This part of the bowel was bound down to the left common iliac artery which was immediately behind it and to the tissues at the back of the pelvis. The normal loop of sigmoid flexure was absent. The mucous membrane of the cæcum was extensively congested and on the outer surface part of the intestine was entirely dead. This congestion extended nearly to the hepatic flexure which was in firm contact with the right kidney. The distension of the cæcum had evidently kinked the large intestine at the hepatic flexure; at this flexure the lumen of the gut was much diminished; the mucous membrane of the transverse and descending colon was normal, the gut not being distended.

Remarks.—In the above case of intestinal obstruction there are, I think, several points of sufficient interest to justify my recording it. The interesting points are that although there was a malignant growth of the rectum it was not the actual cause of the obstruction from which the patient was suffering. The rectal growth had probably been an agent in causing chronic obstruction and in aggravating the chronic constipation from which the patient had suffered for years. The transverse and descending colon was empty, normal, and non-distended, so that the actual point of obstruction would appear to have been at the hepatic flexure. In fact, I think that the condition of the intestines found in this man illustrate graphically the condition described by Mr. W. Arbuthnot Lane in THE LANCET[1] and attributed by him to chronic constipation. This patient of mine had suffered from chronic constipation for years and he had in his lower bowel a growth which during the last six months, at any rate, would have been an added obstruction to the emptying of his big gut. Owing to the chronic constipation there had been gradually increasing growth and distension of the cæcum and ascending colon until they reached the enormous size found at the time of the operation; there had been a corresponding diminution in size in the transverse colon and descending colon, and a practical disappearance of the pelvic colon and mesocolon. The constant dragging of this over-loaded and over-distended cæcum had produced the kink at the hepatic flexure, this kinking action continuing until at last complete obstruction was produced.

I should like to draw attention to the practical non-existence of the loop of pelvic colon; this is a matter of some surgical importance; had this been a case in which an inguinal colotomy was necessary it would have been impossible, owing to the firm manner in which the gut was attached to the posterior abdominal wall, to bring it to the surface.

Medical Societies.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Annual Meeting.—Presidential Address.—The Pre-frontal Cortex Cerebri.—Annual Dinner.—The Effects of Alcohol on Hospital and Asylum Practice.—The History of an Unusual Case of Murder.—Tuberculin Diagnosis.—Diagrammatic Method of Recording Family Histories.—The Relation of Goitre to Insanity.

THE sixty-fifth annual meeting of this association was held on July 26th and 27th at 11, Chandos-street, Cavendish-square, London. The chair during the early part of the meeting was occupied by the President, Dr. T. OUTTERSON WOOD, and later by the new President, Dr. ROBERT JONES.

The morning sitting on July 26th was occupied in transacting association business. In the afternoon a cordial vote of thanks to the retiring President and the officers of the association was passed and was suitably acknowledged.

The PRESIDENT announced that the Gaskell prize had been awarded to Dr. J. M. Rutherford of Morningside Asylum, Edinburgh, and the bronze medal of the association to Dr. C. J. Shaw, assistant medical officer, Montrose Asylum.

Dr. JONES then delivered his Presidential Address, in which he passed in rapid and eloquent review the historical (from Biblical times), custodial, therapeutic, nursing, sociological, and other aspects of insanity, paying especial attention to the influence of alcohol, economic and social stress, and increasing ambition as contributory factors in the disquieting amount of nervous breakdown. In discussing the evolution of insanity Dr. Jones had much to say in connexion with legal requirements. He expressed the opinion that our present institutions for the care and treatment of the insane were the evolutionary growths of sympathy and unabated humanitarian zeal for curative and custodial interests and that they were the most up-to-date nursing institutions to be found in any country. He urged the pathological and clinical pursuit of the problems of insanity and the necessity of the treatment of sufferers by experts, both physicians and nurses. He showed that 1 in every 285 of the population was an inmate of a lunatic asylum and in 1905 1 in every 157 had undergone a term of imprisonment for offences against the law, while 1 in every 31 in London was a pauper. He referred with approval to the recent movement to encourage the teaching of hygiene and temperance in the public schools, which he regarded as a scheme against insanity

[1] THE LANCET, Jan. 17th, 1903, p. 153; and Dec. 17th, 1904, p. 1698.

He urged the necessity of seeing that the nurses engaged in asylums, both male and female, should be able to look forward to a provision in old age at least equal to that of the policeman.—On the motion of Dr. G. F. BLANDFORD, seconded by Dr. R. PERCY SMITH, the President was heartily thanked for his address.

Dr. JOSEPH S. BOLTON read a paper entitled "The Prefrontal Cortex Cerebri," illustrated by lantern slides. Dr. Bolton exhibited a series of most successful sections to show that the prefrontal area of the brain was of extremely complex structure, as complex as, though of finer architecture than, any other part of the brain. These observations were distinctly at issue with those recently published by Dr. A. W. Campbell to the effect that the prefrontal cortex was a very low structure, of poor development, and that it contained practically no fibres, except a few of the finest calibre. It was for the purpose of giving ocular proof of his own contention that Dr. Bolton made the contribution. The paper was discussed by the PRESIDENT, Dr. C. C. EASTERBROOK, Dr. P. W. MCDONALD, and Dr. A. WILSON.

In the evening the members dined together in the Georgian Hall of the New Gaiety Restaurant, the President being in the chair. He was supported by about 70 persons, among the guests being the Bishop of St. Albans, Lord Monkswell, Canon Swallow, Sir William J. Collins, M.P., Sir Owen Roberts, Sir Ralph Knox, K.C.B., Sir W. S. Church, K.C.B., Sir Edwin Cornwall, M.P., Dr. G. H. Savage, Sir Lauder Brunton, F.R.S., Mr. Justice Walton, Dr. F. Needham, Dr. E. Marriott Cooke, Mr. John Tweedy, Mr. Henry Morris (President of the Royal College of Surgeons of England), and Sir Richard Douglas Powell (President of the Royal College of Physicians of London).—Lord MONKSWELL replied to the toast of the Legislature proposed by Dr. SAVAGE.—Sir EDWIN CORNWALL, M.P., replied to the toast of the "London County Council," proposed by Mr. H. F. HAYES NEWINGTON. Sir WILLIAM J. COLLINS, M.P., in an eloquent speech proposed the toast of the evening, "Prosperity to the Medico-Psychological Association," in the course of which he emphasised the value of scientific investigation and pathological research in relation to insanity. The toast was replied to by the PRESIDENT, Dr. D. YELLOWLEES, and Mr. CONOLLY NORMAN. The toast of "The Visitors," proposed by Dr. CHARLES A. MERCIER, was responded to by Sir RICHARD DOUGLAS POWELL, and Dr. T. OUTTERSON WOOD proposed "The Chairman."

On July 27th an elaborate and striking paper was read by Dr. F. W. MOTT, F.R.S., entitled "The Effects of Alcohol in Hospital and Asylum Practice." He compared the results on the mind and body of those who drank to excess in the pursuit of pleasure with those who drank because they were worried or had some great trouble or affliction. He had found that the people admitted to asylums through drink had drunk because they were worried and that they were persons of a nervous temperament; perhaps previously they were epileptic or degenerate or feeble-minded. Excessive drinkers who had not such a bad history were found usually not to suffer in mind but in body, and to manifest the effects in cirrhosis of the liver with ascites.—The paper was discussed by the PRESIDENT, Mr. CONOLLY NORMAN, Dr. JAMES STEWART, Dr. R. C. HOLT, Dr. J. CARSWELL, Dr. C. HUBERT BOND, and Dr. T. W. MCDOWALL.

Dr. HELEN BOYLE read a paper entitled "The History of an Unusual Case of Murder," a woman having murdered her young child in a fit of religious exaltation following upon a visit to a famous mission.—The paper was fully discussed.

Dr. W. F. MENZIES read a paper entitled "Tuberculin Diagnosis," in which he gave his reason for holding but little faith in tuberculin as a certain diagnostic. In the discussion which followed considerable emphasis was laid on the necessity of adhering to the old methods of diagnosing pulmonary tuberculosis.

Dr. E. S. PASSMORE described a Diagrammatic Method of Recording Family Histories, which was applicable to general medical practice.

Dr. ROBERT PUGH sent a contribution entitled, "The Relation of Goitre to Insanity," which was read by Dr. WILSON.

A paper by Dr. M. J. NOLAN, entitled "On the Possibility of the Limitation of Lunacy by Legislation" and one by Dr. EDWARD N. BRUSH, Maryland, U.S.A., entitled "Description of the Method of Admission and Treatment in the Hospital, also of the Founding and Organisation of the Hospital (with Plans of Extension)" were taken as read.

The meeting concluded with a cordial vote of congratulation to the PRESIDENT.

Reviews and Notices of Books.

Collected Studies on Immunity. By PAUL EHRLICH, Privy Councillor and Director of the Royal Institute for Experimental Therapy, Frankfurt, Germany, and by his Collaborators; with several new contributions, including a chapter written expressly for this edition. Translated by Dr. CHARLES BOLDUAN, Professor of Bacteriology and Hygiene in Fordham University, New York, &c. New York: John Wiley and Sons. London: Chapman and Hall. 1906. Pp. 586. Price 25*s.* 6*d.* net.

Professor Ehrlich's "side-chain" hypothesis as to the interaction of living cells and chemical bodies in the lymph surrounding them has now established itself as the most acceptable explanation of many, if not of all, the phenomena at present known to occur in the field of immunity, and if the essential characteristics of a valid hypothesis are that it should apply to the known facts and suggest further lines of research the results of which are also in accord with it, then this must be ranked among the most valuable generalisations recently propounded in biology. In the book before us we find a collection of the writings of Ehrlich and his collaborators in which we can trace to some extent the building up of the theory of immunity and can realise the successive steps in the process. It is true that we have to assume some of the pioneer work in this field, such as the well-known experiment of Pfeiffer and the original observations of Belfanti and Carbone on the properties of the serum of one species of animal when injected with blood corpuscles from another species, but the explanation of these phenomena on Ehrlich's theory and the further experiments undertaken to prove the correctness of this explanation are here given in considerable detail.

The first three chapters are by Ehrlich and Morgenroth and deal with hæmolysis—destruction of blood corpuscles within the animal body and in the test-tube by the action of serum. We are introduced to the two substances which take part in this process, the immune body and the complement; we find that there are several different complements present in the serum of an animal and that some, contrary to the usual rule, are capable of withstanding a considerable degree of heat. We learn also that though an animal is able to form substances capable of dissolving the corpuscles of other members of its own species (isolysins), it never develops the property of so acting on its own cells (autolysis). The bearing of this discovery on theories of auto-intoxication is pointed out. Chapters IV. and V., by von Dungern, deal with the quantitative relations of immune body and complement and with the formation of cytotoxins—substances which act on cells other than blood corpuscles. Chapters VI., VII., and VIII. are again by Ehrlich and Morgenroth and deal with the plurality of both immune bodies and complements, with Bordet's view that the immune body acts by rendering the cell susceptible to the action of the alexine (complement), and with the differences between immune bodies formed in different species of animal. The inference is drawn that a bactericidal serum for curative purposes must either be derived from an animal nearly related to man or be formed by mixing the serums obtained from a number of different species. In Chapter IX., by Neisser, it is shown that excess of immune body may act detrimentally by causing "deflection" of complement, thus preventing it from combining with the organisms which are the object of attack, and Chapter X., by Lipstein, enforces the same point. In Chapters XI., XII., and XIII., written by Rehns, Neisser, and Sachs respectively, the effects of injecting mixtures of antagonistic bodies are investigated—toxin along with an excess of antitoxin, blood corpuscles treated with hæmolytic immune body, and bacilli saturated with agglutinin.

Very interesting are the researches which have been conducted as to the nature of the poisons formed by many species of animals—snakes, spiders, and toads (Chapters XV., XVI., XXVII., and XXXV.). All of these animals secrete substances having a hæmolytic action. Snake venom, for example, is found to contain a substance acting as an immune body and capable of anchoring a complement to the blood corpuscles. The complement in this case is contained in the stromata of the corpuscles themselves and is identified as lecithin. This is apparently the only instance in which a complement has been isolated as a definite chemical body and the discovery is of great interest.

Limits of space forbid us to deal in detail with the contents of all the 41 chapters of the book: allusion can only be made to a few more of the subjects dealt with. As toxins are found to diminish in virulence in course of time and as hæmolytic serums are rendered inert by heat, it was necessary to study the properties of such inactive fluids. It appears that as the toxin on the one hand, and the complement on the other, are each made up of two groups of molecules, one serving to unite with the cell or with the immune body, the other to effect a toxic or hæmolytic action, it is possible for the latter group to disappear, while the combining (haptophore) group remains. Thus are formed in the one case toxoids, in the other complementoids—inactive bodies capable of preventing the action of toxins and of hæmolytic complements respectively, but also of giving rise to antitoxins and anti-complements when injected into animals (Chapters XIX. and XXXVIII.). Similarly by heating an agglutinating serum substances known as pro-agglutinoids are formed, able to prevent the action of an agglutinating serum, but themselves inert.

The reader who is but little acquainted already with the results of recent researches in immunity such as are here recorded will probably be wise to read first Chapter XXXII., in which Ehrlich gives a general account of his theory and its application. He will also appreciate those chapters (XXIX. and XXX.) in which the technique of the various procedures is described. Take it as we will, the book is anything but light reading. To advanced students it should prove highly useful, especially since it has the advantage over the original German edition of containing a special chapter written by Professor Ehrlich, bringing the subject up to date. A fatal blot, however, is the absence of an index, a defect which is calculated to cause acute exasperation in the reader, especially in the case of a collection of scattered writings such as is here presented. The comparatively small amount of trouble involved in compiling an index would have doubled or trebled the value of the work.

We have said that the "side-chain" hypothesis is now firmly established and on this account we are inclined to regret the attitude adopted by its author towards those who differ from him. Science advances by criticism of prevailing opinions and serious criticism should be met cheerfully, indeed welcomed, by scientific writers. Merely carping objections may safely be ignored. Hence the polemical and in places querulous tone of the preface and of some of the articles in the collection before us is much to be regretted.

Perhaps the least satisfactory point about the theory of immunity is its terminology, at least as it is presented in an English or American dress. Such an expression as a "hæmolytic ciliated epithelial immune body" seems an example of torturing the English language beyond endurance when we reflect that the chemical "body" in question is not itself immune to anything but confers immunity on a living animal; that it is not epithelial in nature, and that it is certainly not ciliated. The term "immune body" is itself clumsy, not only for the reason just stated, that it confers rather than possesses immunity, but also in that it employs two words for one thing. "Amboceptor," again, seems defective in that we are specially taught that these bodies are capable of anchoring more than one substance at the same time to a cell and hence the component "ambo" (both of two) is wrongly used. We can only hope that the leading authorities on this subject—who on Socratic principles should, as knowing most about the matter, be also best able to describe it—will devote a little attention to its terminology and endeavour to simplify what is at present a serious difficulty in the path of the student.

Studies from the Institute for Medical Research, Federated Malay States. Vol. IV. Part 1: *Observations in the Federated Malay States on Beri-beri.* By C. W. DANIELS, M.B. Cantab., late Director of the Institute for Medical Research, Kuala Lumpor, Federated Malay States. London: E. G. Berryman and Sons. 1906. Pp. 105. Price 3*s.* 6*d.*

BERI-BERI, which is responsible for so much sickness in tropical and sub-tropical countries, the mortality ranging from 1 in 40 to 1 in 2 in different epidemics, has of late years received considerable attention at the hands of various writers who have had experience of the disease. Thus Dr. Hamilton K. Wright, Dr. Travers, and Dr. H. Dangerfield, to mention only some of the names, have given us their views of the affection. In the volume under review we find succinctly and clearly expounded by Dr. Daniels the various conflicting theories, together with the opinions formed by the author, who was for some time director of the Institute for Medical Research at Kuala Lumpor and who has embodied here the conclusions at which he has arrived from the facilities of observation afforded him of the disease in Malay.

Dr. Daniels, in discussing the etiology, points out that the primary cause of the lesions is as yet unknown. The symptoms known clinically as beri-beri are a secondary result. The main hypotheses which have been suggested can be grouped into two classes—namely, (1) that the disease is secondary to a lesion or disease occurring in the same man (in this class would be included the views of Wright and Durham); and (2) that the disease is secondary to the absorption by man of a poison generated or existing outside the human body: in this are included the views of those who are of opinion that the disease is due to infected ground, poisoning by food, or substances known to induce peripheral neuritis.

The author first gives us an account of the disease as it occurrs in prisons, in the Taiping gaol, Batu Gajah gaol, Pahang prison, Singapore gaol, Penang gaol, and the old and new gaols at Kuala Lumpor. The conclusions arrived at from a consideration of the matters of fact at Kuala Lumpor are that the disease there was independent of the water-supply, and of the consumption of fish, fresh or salted, and that changes of diet to a more liberal scale and thorough cooking of the food had but a slight effect. He shows that the one constant factor in beri-beri in prisons was the admission of cases in the early stage of the disease which, when once introduced, usually spread widely. Those introducing the disease were mainly prisoners under a short sentence and therefore it is recommended that such prisoners should be confined in a separate block; that the confinement in an association ward for the first night of all prisoners should be discontinued; that the cells should be daily cleansed; that all vermin should be destroyed; that any cell in which a case of the disease has developed should be thoroughly disinfected before it is again occupied; and that all blankets should be thoroughly disinfected after use and again sterilised and washed at regular intervals.

The occurrence of the disease in mining and other communities is next considered and then its relation to other diseases. The period of exposure required to produce definite

signs of the affection has been found difficult to determine, some patients complaining of symptoms and showing definite signs only after they have been ill for some days; in others the period is longer.

With regard to the theories advanced that the disease is secondary to the absorption by man of a poison originating or existing outside the human body, there certainly have been cases reported to support this view which, moreover, is fortified by the good effect alleged to have followed removal from an infected locality. But in considering this factor we must not lose sight of the fact that the locality to which the patients were removed was usually a healthy one; also that in the new locality there was no constant influx from outside of cases in the early stage of the disease; and again, that in transferring the patient a certain amount of selection was unconsciously made, the severest cases not being transferred, and thus the death-rate was not so high as it would have been had these cases been transferred.

Dr. Daniels next enters upon the question of the causation of the disease by the ingesta; arsenic, alcohol, and oxalic acid are first considered in this relation and then the theory of nitrogen starvation is discussed. He states that in the Japanese navy an increase in the nitrogenous food was followed by a great reduction in the amount of beri-beri but that this was one only of many changes made in that navy, and hence that the improvement in the nitrogenous element cannot account for the lessening of the disease. But will this criticism apply to every case? We think not. Surgeon-Major L. L. Seaman, U.S.V.C., has shown how in 1883 the outbreak in the Japanese war vessel *Ryujo* caused the question of the causation of beri-beri to become acute. This vessel voyaged 271 days to New Zealand and South America and there developed over 100 cases of the disease, there being less than 350 persons on board. Baron Takaki, F.R.C.S.Eng., the head of the Naval Service, therefore sent another ship over precisely the same course and *under the same conditions*, so far as they could be duplicated, and at the same season of the year, the same ports being visited with a similar number of days' stay at each port. The difference was remarkable: the first ship had 160 cases altogether, the second 16 only, but the latter had been sent out under a new diet scale, avoiding the excessive use of rice. Acting on this experience during the war with Russia the Japanese navy was entirely free from the disease.

There are many other valuable points noticed in this report which lack of space forbids us entering upon. Dr. Daniels concludes that beri-beri is an infectious disease; that there is no definite proof that an intermediate host is required; that there is some proof that for a short period only after occupation of small spaces the poison may remain; that food is not the causative agent; and that if any intermediate host is required for the unknown parasite it must be either a cimex or a pediculus. The report must have been compiled with immense labour and is a most valuable *résumé* of our present knowledge of the disease.

LIBRARY TABLE.

Report on Epidemic Cerebro-Spinal Meningitis in India. By Captain C. J. ROBERTSON-MILNE, M.B. Aberd., I.M.S. Issued under the authority of the Government of India by the Sanitary Commissioner with the Government of India. Simla. Calcutta: Office of the Superintendent of Government Printing, India. 1906. Pp. 67. Price Rs.1 or 1*s.* 6*d.*—In this report Captain Robertson-Milne divides his subject matter into three sections—(1) a Historical Survey; (2) a Clinical Description; and (3) a Bacteriological Examination. The treatment is dismissed in less than a page, for, as the author says, "no drug occupies the position of being a specific for the disease and treatment must therefore be directed towards the relief of symptoms." He mentions the local application of ice bags to the head, the neck, and the spine as of value and the use of the prolonged hot bath as advocated by Netter. He says opinion is divided as to the value of lumbar puncture as a therapeutic measure. In India E. Harold Brown has employed it in four cases with considerable relief to the patients and Captain Robertson-Milne has noticed an amelioration of the symptoms following the operation when he has employed it. Constant careful nursing and light nutritious food are essential. He has attempted to prepare a serum from goats; it seemed to be satisfactory so far as laboratory experiments went, but he has not had other opportunity of testing its efficacy. The lack of pathogenicity, which the meningococcus exhibits, greatly deters research in this direction. Captain Robertson-Milne says that the following conclusions may be drawn from this study of the disease:—1. Epidemic cerebro-spinal meningitis or cerebro-spinal fever in both its epidemic and its sporadic forms is a well-known disease in India: the records of the disease show that it is clinically, bacteriologically, and epidemiologically identical with the malady as it has been observed in other countries. 2. In India it has been an ailment which has most frequently attacked prisoners in gaols; in some of these institutions the disease has continued to prevail irregularly for prolonged periods. No explanation of this is at present possible. A complete local bacteriological and epidemiological study of a severe outbreak, such as has occurred in past years at the gaols of Bhagalpur and Mung Rasul, might be productive of useful data in this connexion.

McDougall's Health Reader. London and Edinburgh: McDougall's Educational Company, Limited. Pp. 96. Price 6*d.* net.—This is a useful little book; it conforms exactly to the syllabus of the Board of Education. The introduction treats of Health and Ill-health. The body of the book is divided into four parts which consider respectively the Home; the Person; Eating and Drinking; and Illness. In the fourth part the final section is headed, "When to Send for a Doctor"; the advice here is quite sound and if followed will save much suffering and insure a freedom from grave responsibility. The book is interesting as well as useful, it is sufficiently illustrated, and it is printed in good, bold type.

Text-book of Diseases of the Ear, Nose, and Pharynx. By B. ST. JOHN ROOSA, M.D., LL.D., Professor of Diseases of the Eye and Ear in the Post-Graduate Medical College and Hospital, New York, Consulting Surgeon to the Brooklyn Eye and Ear Hospital, formerly President of the New York Academy of Medicine, &c.; and BEAMAN DOUGLASS, M.D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical College and Hospital; Fellow of the New York Academy of Medicine, &c. With 108 illustrations in the text. London and New York: Macmillan and Co., Limited. 1905. Pp. 621. Price 12*s.* 6*d.* net.—This work is intended for the use of students and practitioners and will be of assistance to those who are in search of a book which deals not too deeply with the subjects. The fault which we have before had to lament in other works of the same calibre—namely, that the differential diagnosis between the non-suppurative conditions of the ear is extremely vague—also detracts from the value of the book before us. Frequently also the text is misleading. For instance, it is stated that the C^3 tuning fork is generally known as C. Speaking generally, some of the slighter disorders have an undue prominence. This work scarcely reaches that standard which students and practitioners now demand.

Oliver Wendell Holmes and the Contagiousness of Puerperal Fever. By CHARLES J. CULLINGWORTH, M.D. Durh., F.R.C.P. Lond. With Portrait. London: Henry J. Glaisher

1906. Pp. 41. Price 2s. 6d. net.—It was a happy thought of Dr. C. J. Cullingworth's to deliver an address on the important part played by Oliver Wendell Holmes in first pointing out the true nature of puerperal fever. As Dr. Cullingworth says, our forgetfulness of Holmes's work in this direction is probably due to the fact that his reputation as a medical man has been put in the shade by the brilliant success which he obtained in later years in general literature, and his own profession came to be proud of him as the Autocrat, Professor, and Poet at the Breakfast-table rather than as the fearless and outspoken defender of the life and health of the parturient woman. In this address Dr. Cullingworth calls attention to the remarkable essay published by Holmes in the year 1843, some 15 years before Semmelweiss himself published anything on the subject, entitled "The Contagiousness of Puerperal Fever." To those who were in danger of forgetting the great part played by Oliver Wendell Holmes in the recognition of the true nature of this fell disease Dr. Cullingworth has rendered a service, and we are sure that he will feel fully rewarded for his trouble if he succeeds in impressing upon our memory the fact that some at any rate of the credit for this great discovery is due to one of our own kith and kin beyond the seas.

Medical and Pharmaceutical Latin. By REGINALD R. BENNETT. London: J. and A. Churchill. 1906. Pp. 442. Price 6s. net.—Mr. H. G. Greenish, professor of pharmaceutics to the Pharmaceutical Society of Great Britain, in an introduction which he has contributed to this work, regrets "the tendency, both in this country and on the continent, to abandon the use of the Latin language in the writing of prescriptions as well as of pharmacopœias." Although many will share his regret, we fear that the use of Latin for the writing of the whole of a prescription or pharmacopœia will never be revived. Mr. Bennett's book, however, should be found useful both by students of pharmacy and of medicine, and a careful study of its pages will save the editors of medical journals much labour in correction, for those who have mastered its pages will no longer write "per orem" or "labiæ," incorrect expressions which we have seen not infrequently. We are glad to see that throughout his book Mr. Bennett employs the form "Aquam ad uncias sex," or whatever the number may be, although he rightly gives the alternative form on p. 62 in an explanatory footnote. In a future edition we think that the attention of the student should be specially drawn at p. 3 to the fact that "alvus" is of the feminine gender, for this rule is frequently forgotten.

Supplementary Essays on the Cause and Prevention of Dental Caries. By J. SIM WALLACE, M.D., D.Sc. Glasg., L.D.S. R.C.S. Eng. London: Baillière, Tindall, and Cox. 1906. Demy 8vo. Pp. 81. Price 2s. 6d. net.—This little book is a collection of papers which have been contributed by the author to various journals, his object being to reply to the adverse criticisms to which his views on the etiology of caries have been subjected. Dr. Wallace's contention is that dental caries is due to the natural foodstuffs having been deprived of their accompanying fibrous parts, so allowing them to be more liable to lodge and to undergo acid fermentation. Now, although there is much to be said for the author's contention, and he certainly makes out a good case, nevertheless we are yet unable, even after perusing his most recent articles, to agree that his views are capable of satisfactorily explaining the problem. He still considers that variability of the tooth structure has but little connexion with the cause and he does not to our idea sufficiently consider the introduction into our foodstuffs during recent years of rapidly fermentable carbohydrates. Dr. Wallace is always interesting as he is a keen and good critic and does not mind forcibly condemning many of the somewhat loose statements to be found in current text-books.

JOURNALS AND MAGAZINES.

Journal of Anatomy and Physiology. Conducted by Sir W. TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM, M.D., F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, M.D., F.R.S., and J. G. M'KENDRICK, M.D., F.R.S. Vol. XL. Third series, Vol. i., Part 4. July, 1906. London: Charles Griffin and Co. Annual subscription 21s.—The contents of this part are as follows: 1. On the Origin of Vertebrates deduced from the Study of Ammocœtes by Walter H. Gaskell, F.R.S. Professor Gaskell in this, which is the thirteenth and last of a series of papers on the origin of the vertebrates, deals especially with the notochord and the alimentary canal. It is pointed out that the notochord may have once fulfilled the function of a gut and the following theory is advanced. Among the protostraca forms are found resembling trilobites with marked polychætan affinities which like apus formed a deep ventral groove from end to end of the body and also pleural fringes. This might be called the trilobite stage. The groove became converted into a tube and so gave rise to the notochord, while the appendages remained free and the pleura had not as yet met to form a new ventral surface. This might be called the chordate trilobite stage. Then passing from the protostracan to the palæostracan stage the oral and respiratory chambers not communicating with each other are found, a ventral groove in the metasomatic region being the only connexion between the respiratory chamber and the cloaca. This might be called the chordate palæostracan stage; and finally, with the conversion of this groove into a tube, the opening of the oral into the respiration chamber, and the formation of an atrium by the ventralwards growth of the pleural folds, the formation of a vertebrate was completed. Figures introduced in the text illustrate the stages described. 2. The Cerebellum of Petromyzon Fluviatilis, by W. B. Clark, M.B. Lond., with a plate. 3. Remarks on the Innervation of the Dorsum Manus, with Special Reference to Certain Rare Abnormalities, by W. K. Hutton, M.B. Glasg., with a plate. 4. A case of Ectopia Viscerum associated with Spina Bifida and other Abnormalities, by Dr. E. Emrys-Roberts and Professor A. Melville Paterson of Liverpool, with illustrations. 5. On the Anatomy of the Calamus Region in the Human Bulb, with an account of a hitherto undescribed "Nucleus Postremus," by Professor J. I. Wilson of Sydney, Part 2, with numerous illustrations. 6. Supernumerary Limb in a Frog, by James F. Gemmill, M.D. Glasg. 7. Notes on the Origin of Elastic Fibres in Tendon and on Branching of Young Tendon Cells, by James F. Gemmill, M.D. Glasg. 8. On the Development, Ossification, and Growth of the Palate Bone of Man, by Edward Fawcett, M.B. The author admits one centre for the general mass of the bone situated in membrane at the side of the nasal cavity immediately internal to the palatine nerves. It appears chronologically after the upper jaw and the palate is therefore the third of the skull bones to undergo ossification. 9. An Abnormal Vermiform Appendix in the Rabbit, by C. Gordon Hewitt, B.Sc. 10. On a Specimen of the Hind Gut Opening into a Cloacal Chamber in a Child, by F. D. S. Mackenzie, M.B. Edin. 11. A Record of the Decussations of the Brachial Plexus in Man, by Sydney R. Scott, F.R.C.S. Eng. This part of the journal contains the index to the fortieth volume and the Proceedings of the Anatomical Society of Great Britain and Ireland for January and March, 1906.

The Edinburgh Medical Journal.—The July number opens with a historical review by Sir John Halliday Croom of the principal events during the life of Harvey not specially medical in character. Dr. W. P. Herringham writes on the prognosis of chronic nephritis in the young, tending to take a less gloomy view of the outlook in such cases than is usually done, and Dr. Claude B. Ker deals with the treatment

of enteric fever, commending the use of large rectal injections and the administration of calomel, as well as the encouragement of the patient to drink large quantities of water. An introductory lecture delivered by Professor Albert Robin at the inauguration of the chair of clinical therapeutics at the Paris Faculty of Medicine inculcates a scientific scepticism as to the truth of current medical dogmas but at the same time warns against that excess of scepticism which would throw doubt upon the value of any treatment of disease whatever.

The Dublin Journal of Medical Science.—In the June number, in an interesting paper entitled "The Frontiers of Death and the Question of Operation in Extremis," Dr. Charles Greene Cumston of Boston, Massachusetts, reviews the conditions in which surgical interference is imperative, the contra-indications to operation, and the signs of impending death, and incidentally discusses many other important surgical points. Dr. Wallace Beatty records a case of urticaria pigmentosa in an infant aged seven months and discusses existing views on the condition; he notes some peculiarities in the staining of the granules in the "mast cells," which varies according to the nature of the fixing solution used. Mr. Denis Kennedy counsels early operation in cases of appendicitis, combating the view which he believes to be generally taken by practitioners that "operation should only be carried out when the patient is on the brink of the precipice."

The Scottish Medical and Surgical Journal.—Considerable attention has recently been attracted to the condition known as acute leukæmia, and in the July number of this journal Dr. Edwin Matthew records four cases of this affection and advocates the myelogenic rather than the lymphatic origin of the condition. No light is thrown on its etiology. Dr. W. G. Aitchison Robertson urges the need for medical men to keep ready prepared an "antidote and emergency case," giving advice as to the contents of such a receptacle; and Dr. G. Armauer Hansen criticises Mr. Jonathan Hutchinson's theory of leprosy as resulting from the consumption of diseased fish and shows that the explanation fails in the case of Norway. Among "Clinical Records" are notes of a case of Dislocation of the Humerus with Rupture of the Axillary Artery, in which recovery followed ligature of the proximal end of the vessel, by Dr. Duncan Macartney; Seven Cases of Placenta Prævia, by Dr. Robert Jardine; and a case of Epithelioma of the Floor of the Mouth, in which no less than 16 operations were performed and life was prolonged for four years, by Mr. J. W. Dowden.

The Birmingham Medical Review.—In the June number is published the first Ingleby lecture for 1906, by Dr. C. E. Purslow, dealing with the management of labour. The subject is practically treated, the present instalment being devoted chiefly to the preparation of the patient and the preliminary examination. Dr. Charles Greene Cumston writes on Some Mooted Questions Pertaining to Prostatectomy, concluding with the reflection: "In the meanwhile the excellent work being done will be injured if surgeons persist in persuading patients, who can live comfortably for many years with a catheter life, to undergo an operation the good results of which cannot always be guaranteed."

New Inventions.

AN AURAL SHIELD.

ONE of the most decided drawbacks during the after-treatment of aural surgical cases, and one of which the patients most often complain, is the necessity for the prolonged use of the head bandage. Since employing this aural shield it has been found possible to dispense with the bandage entirely. The shield consists of a light wire frame with an inner wire netting, which is detachable, and can thus be easily removed for cleansing purposes. The border where the pressure falls is well protected with rubber and the fastening band is also made of light perforated rubber and can be readily adjusted by means of small studs. The apparatus is so constructed, therefore, that it can be easily washed and sterilised by boiling at each dressing. The one strap round the head is usually quite sufficient to maintain the shield in proper position, but with children or fidgety restless patients a second strap may be temporarily attached at the upper and lower ends of the shield and passed under the chin. Some of the practical advantages gained by the use of this aural shield are that it is lighter and more comfortable than the bandage; that it allows the blood and discharges to get away from the immediate region of the operation

which are often especially abundant during the first few hours; this greatly facilitates drainage and rapidity of healing by diminishing tension in the wounded parts, and to assist this the patient should be encouraged to turn the head towards the operated side and to lie on this side. The head is kept much cooler and there is no accumulation of perspiration such as takes place under a head bandage. Collapse of the meatus is prevented. One of the chief disadvantages of bandaging the head after a mastoid operation undoubtedly is that from the compression of the auricle there supervenes a forcing together of the walls of the ear flaginous meatus and that in this manner one of the most unfortunate and troublesome sequelæ of the operation is induced—viz., collapse and narrowing of the meatus. This is obviated when the shield is used, there being absolutely no pressure on the auricle even when the operated side is lain upon. The aural shield has been found very useful in other auricular affections such as acute and chronic eczema, perichondritis, external otitis, furuncle, &c., in maintaining dressings in position and facilitating local treatment. The shield is made in various sizes for children and adults and has been made for me by Messrs. Mayer and Meltzer, 71, Great Portland-street, W.

W. STUART-LOW, F.R.C.S. Eng.,
Assistant Surgeon, Central London Nose, Throat, and Ear Hospital.
Welbeck-street, W.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

VASIMENT.

(WILLIAM POPPELREUTER, 54, PORTLAND STREET, MANCHESTER.)

"VASIMENT" is an improved oily vehicle for the administration of iodine, creasote, ichthyol, sulphur, &c., by inunction. The advantage of "vasiment," compared with the original vaseline and vasogenes (oxygenated petroleum), is that it forms a white and uniform emulsion with water and on that account the absorption of the medicament is more complete. "Vasiment" basis is, moreover, very cleanly to use and does not stain the skin. Preparations of iodine are made containing respectively 6 and 10 per cent. of iodine (vasiment

iodi). We have also received a specimen of salicylic "vasiment" containing 10 per cent. of salicylic acid. This also forms a white emulsion with water and is rapidly absorbed by the skin.

(1) RED VOSLAUER GOLDECK; AND (2) RED VOSLAUER GOLDECK CABINET.

(HENRY SCHLUTER AND CO., 50, MARK-LANE, LONDON, E.C.)

As is well known, excellent red wines are produced in the districts situated south of the Austrian capital. As a rule these wines resemble light, "soft" burgundy. Voslauer in particular is a wine of very pleasing quality. On analysis the red Voslauer Goldeck gave the following results: alcohol, by weight 10·85 per cent., by volume 13·43 per cent., equal to proof spirit 23·54 per cent.; extractives, 2·82 per cent.; mineral matter, 0·30 per cent.; volatile acid (acetic acid), 0·17 per cent.; fixed acid (tartaric acid), 0·54 per cent.; sugar, 0·22 per cent.; and tannin, 0·17 per cent. This is a sound, dry wine, possessing to an extent the "body and bouquet" of burgundy. It is, however, of a lighter description and contains less colour and astringent substances. Red Voslauer Goldeck Cabinet gave practically the same results on analysis, which were as follows: alcohol, by weight 10·85 per cent., by volume 13·43 per cent., equal to proof spirit 23·54 per cent.; extractives, 2·87 per cent.; mineral matter, 0·28 per cent.; volatile acidity (acetic acid), 0·19 per cent.; fixed acidity (tartaric acid), 0·58 per cent.; sugar, 0·20 per cent.; and tannin, 0·17 per cent. This is also an agreeable, light, "dry" wine with a pleasant, fruity flavour. Neither wine contains any important quantity of sugar. Both wines are digestible and while pleasantly vinous in style are not "heavy."

HOMMEL'S HÆMATOGEN (FREE FROM ALCOHOL).

(NICOLAY AND CO., 36 AND 36A, ST. ANDREW'S-HILL, DOCTORS' COMMONS, LONDON, E.C.)

Hommel's hæmatogen has now been known to the profession for several years and clinical experience has given abundant testimony of its value as a hematinic in a variety of conditions in which the blood is deficient in iron and red corpuscles. Formerly the preparation contained some wine chiefly for the purpose of preserving it. The new hæmatogen is now prepared entirely free from alcohol, glycerine having been substituted for the wine. Glycerine we regard as an excellent vehicle for the purpose.

GRAMINOL.

(J. JUTTKE, 46, QUEEN VICTORIA-STREET, LONDON, E.C.)

Graminol is described as a highly concentrated dried serum for hay fever and is prepared after the method of Dr. Weichardt in the serum laboratory of Dr. Reute and Dr. Enoch in Hamburg. The serum occurs in the form of a greyish-yellow powder of the fineness of snuff. In nasal catarrh it is recommended that the powder should be used in the same way as snuff. It may be used also rubbed up freshly with water and the resulting liquid applied to the eyelids when they are inflamed or attacked by catarrh.

AXE VALE CIDER.

(THOMAS STONE, AXE VALE CIDER WORKS, AXMINSTER, DEVON.)

We believe that well-made sound cider is a perfectly wholesome beverage and it is satisfactory to learn that greater attention is now being devoted to the production of cider with the view of insuring its sound condition. We have received two specimens of Axe Vale Cider which were perfectly bright and sound. To our thinking, however, they are both too sweet, the sugar amounting in the case of the Axe Vale cider to 5·30 per cent, and in the sample marked "selected quality" to 6·25 per cent. Over and above the sweet taste, however, there was the pleasant flavour of the apple. The analysis of Axe Vale cider gave the following results: alcohol, by weight 4·62 per cent., by volume 5·78 per cent., equal to proof spirit 10·13 per cent.; extractives, 7·45 per cent.; mineral matter, 0·35 per cent.; volatile acidity (acetic acid), 0·16 per cent.; fixed acidity (malic acid), 0·41 per cent.; and sugar, 5·30 per cent. The sample marked "selected quality" gave the following results on analysis: alcohol, by weight 4·00 per cent., by volume 5·00 per cent.; equal to proof spirit, 8·77 per cent.; extractives, 8·22 per cent.; mineral matter, 0·32 per cent.; volatile acid (acetic acid), 0·168 per cent.; fixed acidity (malic acid), 0·355 per cent.; and sugar, 6·25 per cent. The alcoholic strength in both cases is commendably small. We could trace no preservatives.

ARTOX FOOD.

(JOHN DUNBAR AND CO., 240, GOLDHAWK-ROAD, LONDON, W.)

The chief merit of this food is that it is prepared from the entire wheat berry and therefore contains the whole of the nourishing principles of wheat. The presence of bran is revealed under the microscope but since this is very finely ground its irritating property must be to a great extent reduced. The following analysis shows that the food is prepared from wheat of good quality, the nourishing elements of that cereal occurring in maximum proportion. Proteid, 11·99 per cent.; mineral matter, 1·50 per cent.; ether extract, 3·00 per cent.; and moisture, 7·90 per cent. The balance making up 100 parts is due to starch and about 3·5 per cent. cellulose fibre. Quite a distinct proportion of the food is soluble in cold water, so it may be assumed that the method of its preparation increases its digestible qualities. Owing to the finely divided fibre present the food has a mildly stimulating action on the bowels.

(1) SELTZO; AND (2) KENTHOP.

(GEORGE HICKTON AND CO., LIMITED, FOREST BREWERY, NOTTINGHAM.)

1. Seltzo is a pleasantly sparkling mineral water which contains a suitable proportion of the alkaline salts that occur in natural seltzer water. Thus, we found on analysis that the water contained 4·38 grammes per litre of salts comprising common salt, sodium carbonate, magnesium carbonate, and sodium sulphate. The water is agreeably soft to the taste and refreshing. It affords a pleasant beverage generally and more particularly is useful in those cases in which alkaline salts are indicated. 2. Kenthop is a sparkling beverage made from hops and is practically free from alcohol. On distillation we found approximately 2·0 per cent. of proof spirit. Its taste is agreeably bitter and nothing but the bitter principles of the hop has been used. It is one of the most satisfactory non-intoxicating beverages which we have examined.

GRAPE PORT.

(FEUERHEERD BROTHERS AND CO., LIMITED, 47, MARK-LANE, LONDON, E.C.)

This is a light tawny port with excellent bouquet and flavour. It is practically non-acid and fairly dry and is suitable for those to whom the vintage ports are too "heavy" or "full." The analysis was as follows: alcohol, by weight 17·67 per cent., by volume 21·69 per cent., equal to proof spirit 38·00 per cent.; extractives, 8·44 per cent.; mineral matter, 0·14 per cent.; sugar, 7·57 per cent.; volatile acid (acetic acid), 0·078 per cent.; and fixed acid (tartaric acid), 0·27 per cent. The wine is an excellent type of port matured in wood.

GRAPE JUICE.

(AGENT, J. RABOURDIN, 1, EAST INDIA-AVENUE, LEADENHALL-STREET, LONDON, E.C.)

There is not much more to be said about this preparation than that it is genuine grape juice preserved by pasteurising. It is free from antiseptics and contains only traces of alcohol. The juice is slightly opalescent. It affords a wholesome and agreeable beverage when mixed with aerated water. Analysis showed the presence of 16·25 per cent. of extractives, of which 15·36 per cent. was grape sugar. The mineral matter amounted to 0·26 per cent. As is well known to our readers, the liberal drinking of grape juice promotes the alkalinity of the blood and produces also laxative effects.

THE LANCET.

LONDON: SATURDAY, AUGUST 4, 1906.

The Imperial Cancer Research Fund.

THE three annual reports of the Imperial Cancer Research Fund have always contained matters of interest and the fourth report, which has just been issued, agrees with its predecessors in this respect. There are many problems to be solved in connexion with cancer. The question of its mode of production is one of the greatest moment, for when that is solved we shall probably also be able to control to some extent, at least, the spread of the disease. One of the greatest desiderata for the experimental study of cancer problems was the obtaining of a large number of animals affected with the disease. This was not possible if we were to be limited to those cases in which cancer had arisen spontaneously. Mice are very liable to mammary growths and it is acknowledged generally that these growths are carcinomata. It has been found possible to transplant portions of these tumours and in the case of JENSEN'S tumour which has been passed through a very large number of mice it is generally accepted that it is certainly cancer. Attempts have been made during the past year to extend this experimental study of cancer to other animals than the mouse, as its short life and its small size are great obstacles to several lines of inquiry. The percentage of successful transplantation experiments in mice has now reached 60 per cent. in the laboratories of the Imperial Cancer Research Fund, while other investigators have recorded a successful percentage of only 15. There are two important deductions to be made from this difference. In the first place, if in 60 per cent. of the cases in which transplantation has been attempted the tumour survives, the constitutional proclivity to the appearance and spread of carcinoma cannot be of very great importance—cannot at least be the chief element in the production of the disease. In the second place it is necessary to recognise that failure in transplantation experiments, whether in mice or other animals, cannot afford us any very trustworthy basis for arguments, since many investigators failed to transplant the mammary tumour of the mouse in 85 per cent. of the cases, while others failed in only 40 per cent. When we know more of the conditions necessary for the growth of cancer the percentage of failures will probably be less still.

The statistical work of the Fund has been continued and the enormous number of recorded cases cannot fail to afford us information of great value far beyond anything possible from the study of the statistics of malignant disease in any one institution or even any one town. The data obtained strengthen the opinion that both of the forms of malignant disease—namely, carcinoma and sarcoma—increase in frequency as age advances and that the minimal cancer mortality occurs between the fifth and fifteenth years. Some statistics have been obtained relating to the incidence of cancer in various castes in India but it is obvious that very little value can be placed on these, as the various castes may not be equally ready to avail themselves of treatment, and, moreover, no information is given as to the relative numbers of the different castes. In India and in the native races of many of the colonies external carcinoma appears to be more common than carcinoma of internal organs, but, as the report points out, the apparent absence of cancer of internal organs may be merely due to the fact that owing to the customs of the natives medical officers have no opportunity of seeing cases of deeply seated cancer. Statistics have always failed to show any true hereditary tendency to the appearance of carcinoma but experimental research will be valuable in deciding this point finally. In 100,000 mice examined 28 cases of spontaneous mammary carcinoma have been found, but inoculation experiments have shown that the susceptibility to carcinoma is very much greater than this. The proportion of success attained in transplantation experiments in mice seems to depend mainly on the character of the cancer cells themselves rather than on any special susceptibility of the intended host.

An important factor in the growth of cancer has been shown to exist in the individual power of growth of the tumour, and this has been found to vary in the same growth from time to time. Fluctuations appear in the rate and amount of growth and these variations may go far to explain many reported "cures." Even apart from experiment it has long been recognised that malignant growths occasionally cease to grow or may even disappear entirely without any special treatment. The attempts to modify the growth of cancer by treatment have been continued. It has been found possible to make mice highly unsuitable for the growth of malignant disease. When mice have been successfully inoculated with cancer in many cases the cancer after a period of growth spontaneously disappears, and then it is found to be impossible to reinoculate the animal; in one case 12 successive inoculations failed. It has also been found that in cases when an adeno-carcinoma has been absorbed it is very difficult to inoculate with JENSEN'S tumour, although the latter is histologically different. Further, an injection of healthy blood from another mouse appears to protect against the subsequent inoculation of JENSEN'S tumour. In all these cases of protective inoculation the attempts at transplantation were made at a distance from the sites of the protective inoculations and it may therefore be taken as certain that the insusceptibility is due to some change in the fluids of the body. All these facts are of good augury, though we must, of course, recognise that we cannot always argue from mice to men. The work of the Fund is steadily increasing our knowledge of the conditions under which cancer grows and we may look forward with hope to what the future may bring. The more we know of the ways of malignant growth the more able shall we be to control both its appearance and its progress. One thing, however, is needed for the continued success of the Imperial Cancer Research Fund and that is money. In the first year of the Fund nearly £50,000 were contributed; in the next year the amount had fallen to about half; in the third year only a

little more than £3000 were received; and in the fourth year which has now concluded only £2315 were contributed. If it were not that much of the money which was received during the first two years had been invested the Fund could not continue its work. Its expenses cannot average much under £4000 a year and for the last two years the average receipts have been under £3000 a year. Were it not that the Royal College of Surgeons of England and the Royal College of Physicians of London provide laboratory and secretarial accommodation and fuel and light the Fund would have had to draw on its capital. Such a state of affairs should not be. We join in the appeal of the honorary treasurer, Mr. HENRY MORRIS, for an endowment fund of £130,000 which would place the Fund on a firm financial basis. Surely this is not too much to ask. Finally, we may express our approval of the general tone of the report; it does not speak too highly of what it has done, it makes no extravagant claims, but merely describes the work it has accomplished and looks forward with hope to the future.

The New Army Medical Sanitary Organisation Scheme.

As might have been confidently anticipated, the new scheme for the reform of the army, expounded by Mr. HALDANE in the House of Commons on July 12th, has given rise to no inconsiderable amount of debate and discussion. It was inevitable that the scheme would come in for severe criticism from the military authorities, while some shrewd criticisms have been offered by political adversaries of the War Minister, which wear to our eyes the appearance of honesty and not of owing their inspiration to party feeling. We are not more concerned with any of the purely political problems involved in systems of army reform than other good citizens are and we are happily enabled to avoid much contentious matter and to pass on to that which comes directly within the scope of the medical journalist—namely, the proposals affecting the health and the medical administration of the army. Here it will be recognised gladly that the War Minister expressed himself in earnest and sympathetic terms. Mr. HALDANE had a good deal to say which was both valuable and to the point, consequently his observations deserve to be studied carefully. Speaking generally, it will be seen that it is the intention of the War Office authorities not only to recognise but to develop the preventive rather than the curative side of medicine; and to that end they are striving to bring home to the army as a whole—to the officers and to the rank and file—the absolute need which exists in modern systems of warfare that every soldier should become acquainted with, and should follow out, the lessons of sanitation and personal hygiene—these being the only known and trustworthy safeguards against disease on field service. Mr. HALDANE briefly summarised the matter by declaring that the chief sources of disease to which an army upon active service is liable are contact with infection, imperfect disposal of excreta, and impure water-supply, evils which, too often regarded as small things in themselves, multiply to enormous dimensions when dealing with great bodies of troops. It is satisfactory to find that the results of scientific knowledge—knowledge for the most part hitherto restricted to the medical service—will as far as practicable be imparted under Mr. HALDANE'S scheme to all ranks of the army so that all may coöperate in the fulfilment of a common sanitary plan when occasion arises, and may coöperate with some of the satisfaction arising from an intelligent appreciation of the methods employed.

It is proposed on the outbreak of war, Mr. HALDANE states, to treat the army on the basis of looking after the health of the unit as one thing and the health of the base and lines of communication as another. Field army conditions differ from those of the lines of communication and the base, where the organisation may more nearly resemble that of a civil community. It would almost seem, indeed, to be the intention of the Government to relegate the trained army medical officers in future to the fighting front or its immediate vicinity, and, so far as the base and lines of communication are concerned, to rely upon the civilian medical profession, to which recourse must always be had in case of this country being engaged in any big war. If this is Mr. HALDANE'S idea it is one that will be intelligible to all our readers. No doubt some civilian medical men will be deprived of one of the keenest incitements to volunteer in time of war if they find that the work arranged for them is to be more or less of a non-military character; but we think that this feeling may be disregarded as one that, however praiseworthy, is not really quite reasonable or quite patriotic. Moreover, if the army as a whole is educated to some extent in things sanitary the soldier will recognise that the army medical man, whether at the front, at the base, or on the lines of communication, is equally a part of the military machinery of the country, and a desire to help the medical department at all times and in all places will naturally follow upon this idea of unity. Mr. HALDANE gave a very brief but sufficiently clear outline of a medical and sanitary scheme of organisation, which had been drawn up with the help and coöperation of the head of the Army Medical Service, and he detailed the steps that had already been, or were being, taken to give effect to it. The sanitary part of this scheme appears to us to have been thought out carefully; it embodies some excellent ideas and new methods of practical hygiene for field service, it is quite simple, and yet appears to cover all the ground.

It seems to us desirable that all sanitary organisations of an executive kind should be of a military character and under the direction and control of the Royal Army Medical Corps and this principle will, we hope, be always observed in dealing with medical-military affairs. An army is a fighting machine and its medical department exists to help it to fight effectively. And here we would add a word on the subject of army nursing in war. Everyone admits that trained female nurses are absolutely necessary in military hospitals and that otherwise good and efficient nursing cannot be secured. On that point and on the advisability of there being such an institution as the "Queen Alexandra Imperial Nursing Service" all are agreed. We nevertheless hold that the exigencies of the service in time of war require that the nursing at or near the front where the actual fighting is, or may be, going on must, for obvious reasons, be performed by male nurses,

and that consequently everything should be done to encourage men of the Royal Army Medical Corps to become efficient nurses. These can only be trained in army hospitals, whereas female nurses can be largely recruited from civil hospitals where they have a wider field and better opportunities for training than they can obtain elsewhere. The female nurses would then be naturally associated with those medical conditions which more nearly approach civilian practice, while the men of the Royal Army Medical Corps, who are soldiers, will be giving their services on the actual scenes of battle.

The Official Nomenclature of Disease.

THE special committee of the Royal College of Physicians of London appointed in 1902 to revise the nomenclature of diseases has now concluded its labours and at the Comitia of July 26th it presented to the College its report, accompanied by copies of the completed volume. The present is the fourth edition (third revision) of the nomenclature, the first having been published in 1869 under the presidency of Sir THOMAS WATSON. For the purposes of State medicine the registration of disease is obviously essential and in order that this may be practicable there must be readily accessible a uniform nomenclature suitable to the entire area under observation. Such a nomenclature is required so that the data with which medical observation is concerned may be definitely and universally fixed and that a basis may be formed upon which medical experience may be built up. The advantages accruing from accurate statistics of disease are likely to be the greater in proportion as the field of observation is the wider, for the statistical registration of diseases on an adequate scale may be expected to throw light upon their causes, many of which diseases may eventually prove, as some of them have already proved, to be preventable. The object which 50 years ago the College had in view in projecting the compilation of such a work as the present was to provide, and at stated intervals to revise, a standard nomenclature for adoption by all nations speaking the English language; and with a view of rendering the work as widely useful as possible the committee has supplied for each English name the equivalent name in Latin as well as in French and German. In this way it hopes to have laid the foundation for a nomenclature of diseases in other languages as well as its own. In selecting the English names of diseases the committee in the preface to the first edition stated it to be desirable "that as little deviation as possible should be made from those employed by the Registrar-General; otherwise his settled plans and forms of returns would require to be remodelled. The comparison of future with past returns would be made difficult and perplexing, if not impossible, and a damaging break would be caused in evidence which becomes more and more trustworthy and valuable in proportion as it is prolonged and continuous." In view of the importance of the work the Royal College of Physicians of London has secured the coöperation of the President and other eminent Fellows of the Royal College of Surgeons of England, as well as of the Presidents of the sister Colleges in Ireland and Scotland. The entire work has been ably edited and prepared for the press by Dr. J. A. ORMEROD, and we congratulate him very heartily on the result of his labours.

With respect to classification, the following changes may be noted in the present edition. The enumeration of morbid states and processes, which in the former edition preceded the general classification, has now been relegated to the appendix, since it is not intended to be used in making returns. The large and heterogeneous section headed "General Diseases" in the third edition has in the present been broken up into four groups: (1) infective diseases; (2) intoxications; (3) general diseases not included in the two preceding groups; and (4) certain morbid conditions incident to various parts. The diseases in the first group are arranged for convenience in alphabetical order. In this group pneumonia now appears as a definitely infectious disease. The lobar form of pneumonia is obviously here referred to, for broncho- or catarrhal pneumonia still remains among diseases of the respiratory system, although this form of disease also is probably due to infective agency. The true nature of epidemic diarrhœa is now emphasised by assigning to it the name "infective enteritis," but in order to avoid misconception the former term is still retained as a synonym, and a footnote contains the instruction that cases of diarrhœa due to food are to be returned here. Under the head of "diphtheria" the use of the names "membranous croup" and "membranous laryngitis" as synonyms for laryngeal diphtheria is forbidden, and it is instructive to note that the old and mischievous term "croup" has now been expunged from the alphabetical index of diseases. The time-honoured but unscientific terms "febricula" and "simple continued fever" are now omitted from the nomenclature, their places being supplied by the name "pyrexia of uncertain origin." The term "puerperal fever" has been removed from the nomenclature. Pyæmia, septicæmia, or septic intoxication occurring in puerperal women should be described as "puerperal pyæmia," "puerperal septicæmia," or "puerperal septic intoxication" respectively. Under the last heading "puerperal sapræmia" is to be included. Explicit directions are given as to the return of cases of small-pox. In every case the presence or absence of marks of vaccination and when marks are present their size, number, and character should be noted. There should also be added any trustworthy information as to whether the patient was (1) unvaccinated; (2) vaccinated in infancy only; (3) vaccinated after infancy; (4) vaccinated only after infection with small-pox; and (5) revaccinated. In returning cases of the various forms of tuberculosis there is an instruction that the terms "strumous" and "scrofulous" should no longer be used, and here we must be allowed to regret that the committee has not discouraged the employment of the term "phthisis" for cases of pulmonary tuberculosis. Under the head of "intoxications," in addition to "alcoholism," there are included "cocainism," "morphinism," "ergotism," and chronic poisoning by arsenic, mercury, phosphorus, and lead, as well as tobacco poisoning. The third group comprises several general diseases that are not included in either of the previous groups—they are anæmia, cretinism, diabetes mellitus, exophthalmic goitre,

gout, myxœdema, purpura, rickets, scurvy, and a few others. Among the last group, which consists of certain morbid conditions incident to various parts, are included, in addition to malformations and the effects of parasites and of poisons, the very important list of new growths, the latter consisting very largely of the various forms of malignant disease now under investigation by the Imperial Cancer Research Fund.

The remainder of the work is concerned with specification of the manifold forms of disease coming under the designation "local," and here we may say generally that the revisers have discouraged the use of names indicating symptoms merely wherever it is possible to trace these to their causes. In particular they recommend that "diseases should only be returned under such general names as 'convulsions,' 'apoplexy,' 'paralysis,' &c., when the morbid conditions on which they depend are unknown, but when the cause has been ascertained the case should be registered under the head of the primary disease, the secondary affection being also specified." Unfortunately for medical science the time has not yet arrived for the registration of disease to be recognised as a matter of State policy, although this step has been strongly recommended by the recent Committee on Physical Deterioration. Nevertheless, the registration and classification of the causes of fatal diseases are carried out with ever-increasing efficiency at Somerset House, and we doubt not that the publication of a new authorised nomenclature will be welcomed by the Registrar-General and his medical adviser as an invaluable aid in their work. We presume that, according to precedent, a copy of the present work will be forwarded free of cost to every practitioner whose name appears on the Medical Register.

The Coal-tar Colour Jubilee and its Relation to Medicine.

MEN of science from all parts of the civilised world met in the Royal Institution on Thursday, July 26th, to do honour to Sir WILLIAM HENRY PERKIN who by his discovery of the first aniline dye from coal tar became the founder of the great modern dye industry. An immense superstructure of industry and scientific application has since grown out of PERKIN'S simple and successful experiment, yet he did not set out with the slightest idea of creating a mere colour stuff, for he was at the time more concerned with the possibility of preparing quinine by purely synthetic methods. Aniline, of course, bears a relationship to alkaloids, but during the attempt to oxidise this body by means of chromic acid PERKIN obtained, instead of an alkaloid, a beautiful colouring agent which proved to be the prototype of the thousand, and more, distinct aniline colour stuffs now produced by modern chemical industry. Mauveine, as PERKIN called the new dye, was discovered in 1858 and the jubilee of this discovery is synonymous with the jubilee of the coal-tar colour industry. Although aniline was the starting point of PERKIN'S research yet coal tar contains but a comparatively small proportion of this oily base. It was known, however, that benzine occurred in coal tar in much greater quantity and, moreover, that benzine can be readily converted into aniline oil by the processes of nitration and reduction respectively. The foundation of coal-tar dyes was in reality therefore benzine, and there is little else in coal tar that contributes such a wide range of gorgeous colourings. The discoverer of benzine was MICHAEL FARADAY who prepared it 31 years before PERKIN produced mauveine from aniline. FARADAY therefore discovered not only the basis substance of coal-tar colours but what proved to be the starting-point also of the modern synthetics used in medicine, synthetics, moreover, which in regard to their constitution and therapeutic action resemble in some respects quinine itself. We now know that by varying the radicle groups in benzine derivatives an antipyretic or a hypnotic may be produced at will. Thus we see that PERKIN'S idea that possibly quinine could be built up from aniline showed great foresight as to the future attainments of synthetic organic chemistry. As we have said, however, his experiment produced an aniline colour and not those bodies which have since been prepared from benzine, and which have proved to be practically analogues of certain at any rate of the alkaloids. While we do not forget to honour PERKIN for his valuable discovery, we must recognise also the great genius of FARADAY who first gave to the world in a tolerably pure state benzine, which is the foundation of those great modern industries in which the synthetic processes of producing dyes are carried on. It is interesting to reflect that, since benzine is purely a product of coal distillation, the commencement of the coal-gas industry marked not only a new era in regard to artificial methods of lighting but a step also of extraordinary importance to the industrial welfare of the world.

It is hardly conceivable that FARADAY or PERKIN could have anticipated that their discoveries would have a wider use than to be applied to industrial pursuits, yet few must fail to recognise that the discovery of aniline dyes has rendered immense service to medical science. Medicine, in fact, owes much to the coal-tar industry. The recovery of by-products from coal tar made antiseptic surgery possible, and, putting aside the innumerable drugs which are now prepared from coal-tar derivatives, an enormous impetus was given to bacteriological science, and therefore preventive medicine, by the discovery that the appearance of the organisms of disease could not only be accentuated by the use of coal-tar dyes but that the organisms themselves could be differentiated also. It is not too much to say that the present advanced position of histological and morphological methods is due to the discovery of aniline colours. For we must remember that spores were brought to light by aniline staining, and that the detection of certain highly important structures possessed by some organisms became possible only when to the refinement of microscopical manipulation was added the coal-tar dye. The different behaviour of different organisms to the same colour may not have received a satisfactory explanation but of the diagnostic value of staining there is no doubt. Whether the staining of animal or vegetable matter by dyes is a purely physical or a purely chemical process, or a combination of both processes, are questions which are still warmly debated. There is much to be said for all views but it is difficult at the outset to say where physics begins and chemistry ends. Perhaps the simplest explanation is that put forward by the eminent colour chemist, O. N. WITT, who suggests that staining is simply a question of solid solutions—

that is to say, that dyes dissolve in solid tissues in exactly the same way as they do in fluid media. Similarly it is possible to take out certain chemical substances from their aqueous solutions by shaking them with ether or other solvent which is immiscible with water. Whatever may prove to be the ultimate explanation, it is abundantly evident that the discovery of coal-tar dyes has placed in the hands of the biologist and chemist a valuable adjuvant, and our knowledge of the great biological processes is every day extended as the suitable stain reveals the nature of formation or the arrangement of structure. Medicine, therefore, will freely own its acknowledgments to the great discovery of Sir WILLIAM HENRY PERKIN, and will cordially endorse the distinguished honours that were conferred upon him in that historic arena of original research, the Royal Institution.

Annotations.

"Ne quid nimis."

PROFESSOR ANNANDALE ON QUACKERY.

"How green is this grey world!" Shelley's despairing cry recurs to the mind like a haunting refrain when, side by side with the trophies of inductive observation and research, we see, in not less conspicuous array, the fallacies and superstitions which they were supposed to have extinguished still holding the public field with a vitality tenacious enough to resist all exposure and attack. At Edinburgh on July 28th Professor T. Annandale on giving the young graduates the customary "God-speed" before entering on their professional career indicated both wisely and well the hostile forces which they must encounter—forces conspicuous among which is the credulity of the contemporary world, ever prone to prefer the superficially plausible to the scientifically sound, and to accord to the irregular practitioner a confidence and a patronage merited only by the duly qualified. Dealing with the subject historically, Professor Annandale illustrated the tendency of "vulgar errour," as Sir Thomas Browne calls it, to reproduce itself under new names, "mesmerism," for example, reappearing as "hypnotism" and "temple worship" as "Christian Science." As to this latter, he showed, as something in itself significant, not to say ominous, that it is in the so-called upper classes that its prevalence is most conspicuous; that, having become fashionable, its votaries wield in its favour all the weapons of social prestige and pervert the means and the leisure at their command to the propagation of what is at once a morbid and a dangerous obsession. Blessed as they are with opportunity and the power of utilising it, they never think of employing these advantages in the search for truth on the only lines on which it is attainable; rather, in their haste to light on a royal road to health and the happiness that it brings, do they foster and subsidise every pretender who claims to have discovered the short cut they long for. Zealots for a "science" which is not scientific, and masquerading in a "Christianity" which is dubiously "Christian," they are a fair target for such missiles as were levelled by the great French reformer and wit at that political coalition known as the "Holy Roman Empire," which was not "holy" any more than it was "Roman" or in any true sense "Imperial." And like that unstable alliance it will be equally short-lived, originating in an obscurantism and a superstition similarly unsound and deciduous, and qualifying for the verdict pronounced upon it by Professor Annandale's shrewd old Scottish lady: "Christian Science didn't cure me, but I have been cured of Christian Science." Not that it will not have successors when, in its turn, it has met the fate of all fashionable delusions. "Other creeds"—equally false—"will rise with other years," till the "wisdom" which "lingers" while "knowledge comes" will finally win the supremacy which is its due and the "common sense of most" will dominate the world. How to accelerate this consummation Professor Annandale made no attempt even to adumbrate. Perhaps wisely! Premature prescription would be like taking a leaf out of the enemy's book. But there can be no doubt that perseverance in the quest for truth, perseverance maintained "in quietness and in confidence," will ultimately have its reward when there will be no upper classes in the vulgar sense, but when, in the sense foreshadowed by Professor Sir James Dewar, a class of far wider and nobler constituents whose education will keep pace with the advance and development of the time and will faithfully reflect the needs and effectively fulfil the duties of its day and generation. Towards that objective all true workers are, directly or indirectly, contributing—not least those who serve loyally in the Hippocratic field in full and fervent response to the Hippocratic watchword, "Art is long and Time is short."

THE WORKING OF THE MIDWIVES ACT.

WHEN the Midwives Act was drafted it was foreseen that for a long time the supply of fully-trained midwives would be insufficient for the proper working of that Act. The compromise was therefore arrived at that any woman, who had been in *bonâ-fide* practice as a midwife for one year previous to April, 1905, should be granted a certificate to practise in order that the work might be carried on until a sufficient number of properly trained women were available. The inevitable result of this has been that in some towns the great majority of the women practising as midwives are improperly trained, and in only too many instances are quite illiterate. In a report presented by Dr. A. Robinson, the medical officer of health of Rotherham, he states that of the 23 midwives on the roll in that town only one has been enrolled as possessing a certificate of proper training, the remainder being women of the lowest class, all except four who are quite illiterate, having little or no knowledge of their duties. These women have been granted certificates in virtue of having been in *bonâ-fide* practice for 12 months previous to April, 1905. There can be no doubt that many other towns are in the same condition. It is a matter which will remedy itself in time, and meanwhile, as Dr. Robinson points out, the only thing to do is to exercise as much supervision as possible over these women so as to prevent them from doing any great amount of harm. He finds that in cases where they break the rules the best mode of punishment is to cause them to be suspended from carrying on their work for longer or shorter periods of time. In this way they can be kept under supervision, whereas if they are taken off the roll all further control over them is lost. Such a state of affairs as obtains in Rotherham was only to be expected in the early days of the new *régime*, and for a long time there will remain a number of untrained and often illiterate women on the midwives' roll. There is a good deal to be said for the suggestion put forward by Dr. Robinson—namely, that some distinction should be made between those women whose names are on the roll because they hold a certificate of proficiency and those who are there in virtue of having been in practice as midwives before the passing of the Act. The complaint made that the examination is too difficult is one with which we have much sympathy. In such a test the standard must of necessity be kept low, and unless a woman is grossly ignorant there should be no undue difficulty in her

obtaining a certificate. There is, however, we think, a tendency in these examinations to look for an amount of knowledge on the part of the women beyond what we believe to be the necessary minimum, and, in our opinion, it is much better that there should be a large number of women practising as midwives with a certain amount of knowledge, even if this be the very minimum, rather than a smaller number of women possibly more highly trained. It will be an easy matter in years to come to raise the standard if this be thought advisable.

THE BRITISH MEDICAL ASSOCIATION.

THE Seventy-fourth Annual Meeting of the British Medical Association will be held, as most of our readers know, at Toronto, Canada, on August 21st, 22nd, 23rd, 24th, and 25th next, under the presidency of Dr. Richard Andrews Reeve, Dean of the Faculty of Medicine in the University of Toronto. The programmes promise full and interesting discussion. 13 scientific sections have been arranged and will meet daily in the University Buildings at 9.30 A.M., viz., Anatomy, Dermatology, Laryngology and Otology, Medicine, Obstetrics and Gynæcology, Ophthalmology, Pædiatrics, Pathology and Bacteriology, Physiology, Psychology, State Medicine, Surgery, and Therapeutics. On Tuesday, August 21st, at 2.30 P.M., an address of welcome will be delivered and the ceremony of introducing the distinguished guests and delegates will be performed. This will be immediately followed by the Presidential address by Dr. Reeve. At 4.30 P.M., in the University quadrangle, a reception will be held at a garden party given by the President and Mrs. Reeve. In the evening an address in obstetrics will be delivered by Dr. W. S. A. Griffith and later Mr. Mortimer Clark, the Lieutenant-Governor of Ontario, whose official residence is in Toronto, will receive the members of the Association. On Wednesday, at 2.30 P.M., an address in medicine will be delivered by Sir James Barr and in the afternoon various garden parties have been arranged. In the evening at 8.30 an address in surgery will be delivered by Sir Victor Horsley and this will be followed by a reception at 9.30 P.M. On Thursday afternoon garden parties have also been arranged, while at 7.30 P.M. the President will preside at the annual dinner when a distinguished gathering is assured. On Friday afternoon extensive entertainments are promised to members and their friends, while in the evening will be held a grand *soirée*. For Saturday, August 25th, many excursions have been arranged of which visiting members of the Association are sure to take full advantage.

THE COMPARATIVE THERAPEUTIC ACTION OF CARDIAC DRUGS.

THE therapeutic action of digitalis, cactus grandiflorus, gelsemium, strophanthus, crataegus, convallaria, apocynum cannabinum, and sparteine has been compared in a recent number of *Les Nouveaux Remèdes*. It is pointed out that the use of digitalis should be restricted to cases of a weak, rapid, easily depressible pulse, accompanied by cyanosis, dyspnœa, or œdema and insufficiency of the aortic or mitral valve. But it should not be given when the pulse is full, firm, and slow, or when there is stenosis of the aortic and mitral valves, with fatty degeneration, or in cases of marked arterial sclerosis. In cases of sudden failure of the heart digitalis may be administered either alone or in conjunction with strychnine or nitroglycerin. Cactus admits of more general application than digitalis. It is especially useful in cases of cardiac weakness associated with defective nutrition and consequent extreme irregularity or aggravation of the action of the heart, but it should be avoided if such action is due to temporary nervous excitement; in such cases gelsemium soothes the excitement and allows the heart to regain its normal condition. Cactus acts as a cardiac sedative and lowers the temperature in fever associated with cardiac depression or when collapse is threatened. When, however, the temperature is subnormal cactus restores it more rapidly than strychnine. Strophanthus is useful in cardiac dilatation and sometimes in valvular insufficiency; it is given together with cactus, avena sativa, and crataegus when the dilatation is associated with atheroma. Crataegus should be administered in chronic cases with valvular insufficiency and a tendency to atheroma, in sudden cardiac attacks in young, nervous, excitable patients, and in cases of exhaustion with persistent palpitation, dyspnœa, and weakness. Convallaria controls the action of the heart when the derangements are caused by reflex action; it diminishes the number of beats, relieves the pressure, and renders respiration easy and regular. Apocynum is indicated when the feeble action of the heart is accompanied by dropsy and the pulse is either slow or rapid. Sparteine is a general cardiac tonic and is of value when the beats are unequal in strength and the rhythm disturbed, whatever may be the valvular lesion.

FIGHTING THE PLAGUE IN JAPAN.

THE commercial development of Japan has not been entirely an unmixed blessing. One result of the greatly increased trade with China and India has been the introduction of plague and three epidemics in the last seven years. At the annual meeting of the American Society of Tropical Medicine Professor Kitasato presented an interesting paper, which is published in the *New York Medical Journal* of July 7th, on the means taken by the Japanese to combat the disease. They illustrate once again the extraordinary skill in organisation and perfection in detail which seem to constitute the genius of the race. The localities principally affected are Tokyo, Chiba, Kobe, Osaka, Kagawa, and Moji. In the three epidemics (of which the third still continues) there have been 601 cases, of which 513 were fatal. These numbers are not very great but, probably for this reason, the amount of money spent in preventive measures has been enormous. During an outbreak in Tokyo, though the number of cases was only 15, 230,000 yen (£22,000) were spent. The plague bacillus seems to be taken to Japan in freight, such as raw cotton and rice. As a rule, man is not attacked in the first instance, but rats. By the time when the first human victim is discovered the disease is deeply rooted. The present outbreak in Osaka is a case in point. Infected rats were discovered in February but cases in man not until May. Season exercises a peculiar influence, the reason for which is not apparent. A winter epidemic generally rages for a long period over a wide area. A summer epidemic is usually acute and spreads as a rule by contagion. To prevent the importation of plague quarantine measures are strictly enforced. These include the despatch to the ships of boats specially equipped for rat-killing. When outbreaks of plague occur the prefectural governments increase the number of sanitary officials to meet the occasion. If an outbreak is of unusual vigour an imperial ordinance is issued creating a special board consisting of commissioners, inspectors, clerks, and watchmen. For the present outbreak the Osaka municipality has in commission 311 officials and several councillors. In the work of prevention the Institute for Infectious Diseases, of which Professor Kitasato is director, has played a most important part. Here are prepared plague serum and vaccine for the whole country and physicians from all parts receive instruction in bacteriology and epidemiology. Some time ago Professor Kitasato pointed out the importance of killing the rats in buildings containing cotton or grain in which the germs of plague are likely to exist.

As a result of this warning several municipalities have decreed that all warehouses must be so constructed as not to furnish a place of abode for rats. Professor Kitasato suggests that this ordinance should be extended to all dwellings. To encourage the killing of rats a price is paid by the Government for all the animals killed or caught. In Tokyo more than 4,800,000 rats have been killed. Yet so prolific are the animals that little decrease in their numbers has been noticed. They are bacteriologically examined in enormous numbers. As cases of plague in rats precede cases in man, Professor Kitasato terms this reconnoitring work. In 1902 timely warning of an outbreak was thus given in Yokohama. In examining rats special attention is directed to the submaxillary and cervical glands and to the spleen. As these organs generally show evidence of infection the inference is that the animals are infected through the mouth. In suspected materials, such as cotton waste, bacteriological examination has revealed the presence of the bacillus of plague. In buildings in which cases of plague have occurred the rats are destroyed. Around the buildings are placed zinc walls three feet high and extending into the ground to the depth of a foot, so that the animals cannot escape. In 1903 in Tokyo as much as four miles of zinc walls were erected. To prevent the importation of plague Professor Kitasato suggests that something more is necessary—to attack the disease at its source in China and India. As all civilised nations are menaced by this common enemy he thinks that an international conference should be held in order to discuss a plan, to collect money, and to organise an expedition to India and Southern China to eradicate the disease.

SUICIDE AND ITS METHODS.

"Professor Morselli," writes an Italian contributor, "the eminent alienist and 'criminal anthropologist,' in his treatise published 21 years ago, 'Sulle Leggi Statistiche del Suicidio' ('On the Laws Regulating Suicide as Determined by Statistics') classified the methods of self-murder under three predominant heads: (1) the method by fire-arms; (2) the method by dropping from a height; and (3) the method of asphyxia by carbonic acid gas. Suicide by drowning, he proceeded to show, and suicide by poison are becoming more and more rare, steadily giving place to the methods of '*sus. per coll.*' and the revolver. His generalisation, set forth as it was by one having authority, held the field for ten years or so; but now, as one of his colleagues contends, he is faced by facts which constrain him to modify, if not to invert, the order above indicated, and from statistics drawn from the capital of his own Piedmont, to admit that suicide by the revolver or by hanging is comparatively out of fashion, suicide by poison having reduced both to a frequency little above that held by prostration before an advancing train. In Italy suicide by poison was almost entirely confined to females, the other sex preferring suicide by firearms. Now the former method is equally in favour with both sexes, and why? The answer is, as confirmed by statistics drawn from Turin alone during 1905 and the first three months of 1906, 'the facility with which corrosive sublimate or bichloride of mercury may be procured, entering, as it has done, increasingly, for the last ten years, into domestic use.' Most effective as a poison, even in small doses, it is within reach of anyone who claims it for a surgical, medical, or even hygienic purpose, while it is sold cheap in tiny tubes in quantity sufficient to cause the death of half a dozen persons. The police register (*Cronaca Nera*) attests the favour which it finds with the more cultured classes—a fact which countervails another of Professor Morselli's conclusions, namely, that the more the intellect is developed the more frequent is the recourse on the suicide's part to means which are rapid, certain, and least painful. For it is notorious that as a poison corrosive sublimate acts slowly—death not supervening till hours, or even days, after its ingestion; nay, cases are on record in which would-be suicides, after a few days in hospital from poisoning by the bichloride of mercury, have been removed to their homes, only, it is true, to die, but at an interval of from ten to 15 days from the ingestion of the poison—an interval long enough for repentance on the suicide's part and for the return of the will to live. It is for Italy to restrict the sale of this poison by regulations far more rigid and far more vigilantly enforced than at present prevail; though whether such an enactment stringently carried out would check a suicidal mania is more than doubtful. Italy, as has often been shown, maintains a sinister priority not only in homicide but in suicide and something more than prohibition of the method must be brought about if the phenomenon itself is to sink to the reduced level at which it stands in hardier, less emotional, and more prosperous races."

THE INTERNAL SECRETION OF THE OVARIES AND OF THE UTERUS.

FEW observers who have studied the subject would be found at the present day to dispute the hypothesis that the ovaries have an internal secretion. The frequency with which hysterectomy, leaving one or both ovaries, is now performed has led to the discovery of many new facts with regard to tissue metabolism and the various problems more directly connected with the functions of the female genital organs. Dr. W. Blair Bell, in a paper read before the Liverpool Medical Institution, May 3rd, 1906, says he is not convinced that the whole sum of the genital activity in the female is due to the internal secretion of the ovaries alone and believes that the uterus must be taken into account as well. He maintains that the latter organ also has a secretion which he names "uterin" and that this substance is secreted throughout the whole life-history of the uterus even before puberty and after the menopause. His attention was first directed to this hypothesis by the observation that in some women who had undergone vaginal hysterectomy without the removal of the ovaries a definite climacteric period set in with all the usual symptoms. Further, he questions the usually accepted statement that in cases of cöphorectomy in which menstruation continues some portion of one or both ovaries has been left behind. He thinks that menstruation may continue even when both ovaries have been completely removed. The occurrence of superinvolution of the uterus with no discoverable morbid changes in the ovaries, and the further fact that for a time, at any rate, after supravaginal hysterectomy where a portion of endometrium has been left the patients may continue to menstruate, he thinks also are in favour of the view that the uterus elaborates an internal secretion of some importance. This "uterin" may, he considers, be excessive or deficient in amount, and women in whom it is excessive are prone to be of the neurotic or excitable type, whilst those in whom it is deficient incline to be phlegmatic or despondent. In support of these statements he puts forward the assertion that this uterine extract stimulates the phlegmatic woman and increases the excitability of the excitable and that excessive menstruation usually occurs in the latter and deficient menstruation in the former. He also adduces as facts in favour of his view that there are increased nervous tension before the onset of the catamenial flow and depression afterwards, while the severity of the climacteric symptoms usually varies in inverse ratio to the amount of the flow. The catamenia are said to be the result of an excess of uterin, while when there is a deficiency in the amount of this secretion

they may be deficient or even absent. The occurrence of ovulation is ascribed to an excess of uterin in the blood, and that ova may be discharged before puberty is held to be due to the fact that uterin is excreted constantly throughout life. Dr. Bell ingeniously explains any objection to the occurrence of ovulation after the menopause by supposing that the uterus continues to secrete enough uterin to promote ovulation but not menstruation. He produces no real proofs in support of his various statements and although he suggests various lines in which investigations may be carried on there is no evidence in this preliminary communication on the subject that he has performed any number of experiments. In connexion with this paper we may call attention to some very excellent work on the subject which has just been published by Mr. C. J. Bond of Leicester in the *British Medical Journal* of July 21st. He has carried out a large series of experiments on rabbits with a view to determine firstly the effect produced upon the ovaries by removal either partly or wholly of the uterus. He also has investigated the formation of hydrosalpinx and hydrometra in the rabbit and the function of the saline fluid secreted by the uterus and the tubes. A third series of experiments seemed to show that at any rate in the rabbit compensatory hypertrophy of one ovary will occur if the other ovary be removed so long as coitus and pregnancy occur or if the uterus be also removed so long as coitus is allowed. Mr. Bond's work is a good example of how such work should be done, for his deductions are based upon a series of careful and trustworthy xperiments.

THE DISTINCTIVE PROPERTIES OF DIFFERENT WINES.

JUST as it is a profound mistake to regard wine as a mere mixture of alcohol and water, so is it equally erroneous to assume that different wines possess identical properties. Alcohol apart, the physiological effects of champagne, claret, hock, port, or sherry show variations which can only be ascribed to certain subtle and different constituents in these wines which chemical analysis so far has failed to elucidate with anything like completeness. Broadly, we know that for one thing the stimulating ethers vary considerably in amount in different wines and the same, to some extent, may be said of the higher alcohols. Sherry, for example, contains more of these stimulating ethers than any other wine and probably for this reason it has proved to be a valuable stimulant in disease and especially so in the enfeebled nervous system of old persons. Good port is similarly valuable but this value is somewhat discounted by the fact that it is comparatively rich in colouring matters and in astringent substances. Sherry has a mild laxative action, while port may have effects quite the reverse of this. The keeping properties of sherry, whether it be of the "light" or "heavy" type, are notorious; it never turns sour or grows mouldy, or loses its delicate almond-like flavour. It may be kept for months in an open decanter without deteriorating. On the contrary, it improves and the peculiar bouquet and flavour steadily develop. The reason of this is probably that sherry contains a notable amount of aromatic substances which coupled with alcohol serve as antiseptics and preserve the wine against unfavourable changes. This receives some support from the fact that sherry is frequently used in the country of its production as an antiseptic application to wounds. Good claret, of course, has no keeping properties at all, it soon becomes sour and develops a mould. Claret, in fact, is the most delicate of wines and requires careful handling and careful bottling. Its delicate flavour is also easily spoiled, as by contact with tobacco smoke which, however, has no appreciable effect on the flavour of sherry. Sherry is also sharply distinguished from other wines by the fact that it can be drunk as an accompaniment to sweet dishes without its flavour being spoiled, or enjoyed even when smoking is indulged in. No one would think of drinking champagne, hock, or claret in similar circumstances. Champagne, on the whole, keeps after it has been opened rather better than claret, owing most probably to the preservative action of its carbonic acid gas, but as soon as champagne ceases to effervesce it is stale and uninteresting and soon turns sour. When such different characteristics between different wines are easily noted by the ordinary observer it is reasonable to conclude that each wine must possess its own distinct physiological qualities.

THE OPHTHALMOLOGICAL CONGRESS AT OXFORD.

MANY ophthalmic surgeons journeyed to Oxford on July 22nd last for the purpose of taking part in the Congress organised by Mr. R. W. Doyne, the reader in ophthalmology in the University. Among the foreign guests were Professor Dor (Lyons), Dr. A. Darier (Paris), Dr. H. Snellen (Utrecht), Dr. A. Antonelli (Paris), Dr. Pergens (Maeyseck), and Dr. Patry (Geneva) The visitors were provided with rooms in Keble College at a nominal charge. On Monday, the 23rd, there were several interesting demonstrations. Professor F. Gotch's experiments illustrated chromatic aberration of the eye. Dr. Henderson Smith explained the opsonic index. Mr. P. A. Adams showed recent methods of determining the coagulation time of the blood in relation to ophthalmic disorders. A particularly artistic set of water-colour drawings illustrative of ocular bacteriology were exhibited by Mr. M. S. Mayou. Mr. J. T. Gradon showed microscopic specimens of several phases of ocular embryology. Last, but not least, Dr. Darier gave a practical demonstration of subconjunctival injections as employed by him in the treatment of certain diseases of the eye. Two communications were read on the 23rd, one by Professor Dor and the other by Mr. E. Nettleship. The former dealt with the treatment of Graves's disease by the administration of thymus gland. Mr. Nettleship took as his subject Some Hereditary Diseases of the Eye and his remarks were closely followed by an appreciative audience. The afternoon was devoted to the examination of cases, chiefly those of so-called "family" diseases of the eye, at the Eye Hospital. Later in the day excursions by boat were organised upon the Cherwell and parties of visitors were personally conducted round the Colleges and University buildings. On the 24th Mr. George Coats read a paper upon Intra-ocular Vascular Disease, illustrated with numerous lantern slides. A smoking concert at Keble College brought the day to an end. On the 25th a number of the visitors left Oxford by Thames steamer for London and elsewhere.

VOLVULUS OF THE STOMACH.

IN the *American Journal of the Medical Sciences* for June Dr. G. Streit has reported a case of the rare condition of volvulus of the stomach. The subject was a man, aged 35 years, an inmate of a lunatic asylum. Though emaciated he had a voracious appetite. He never complained of digestive trouble and until the onset of his last illness appeared to be in his usual health. The first symptom observed was vomiting which occurred about two hours after dinner. He made no complaint but on being questioned admitted that he was suffering from abdominal pain. Epsom salts were given but were at once ejected. He was covered with perspiration and the abdomen was tense and tender. The tenderness was most marked in the left hypochondrium and left half of the epigastrium. In the upper abdomen the percussion note was tympanitic. The temperature was 97·6° F.; the pulse was 95, small, and weak;

and the respirations were 30. He asked for water which he drank and ejected. An enema of glycerine brought away a small amount of fæces. At 11 P.M. his abdomen was distended, especially in the upper half, and tenderness was so marked that he objected to palpation. He complained of thirst and whisky and water were given in teaspoonful doses and retained. An enema of soap and water was given without effect. On the following morning the distension did not seem so marked but the pain was severe and the tenderness and rigidity had not diminished. He became steadily weaker and died comatose in the evening. The necropsy revealed a greatly distended stomach, measuring 64 centimetres in its greater curvature. It was turned upside down and from left to right, producing torsion of the lesser omentum and drawing the spleen and transverse colon to the right and upwards so that they lay on the upper side of the stomach in the position of the right lobe of the liver (which had been forced backwards) and directly beneath the ensiform cartilage. To effect reduction the stomach had to be turned to the left, the cardiac end passing from the right to the left hypochondrium. This released the pressure on the pylorus and allowed the escape of gas into the small intestines. The spleen had been torn from its external peritoneal attachment, producing hæmorrhage into the peritoneal cavity to the extent of from 300 to 400 cubic centimetres. The stomach contained dark-brown fluid mixed with food. Nine cases of volvulus of the stomach have been recorded. In two there was rotation of 180° or more around a vertical axis. In one of these the stomach occupied the entire peritoneal cavity. In the other the abdomen was opened and the distension was relieved with a trocar. The stomach was then reduced and recovery followed.

ENTERIC FEVER AND COCKLES.

THE report of Dr. W. Collingridge, the medical officer of health of the City of London, for the four weeks ending July 14th, presented to the sanitary committee of the City of London on July 24th, contains a note of considerable importance in regard to the use of shell-fish as an article of diet. The facts are briefly as follows. On June 29th an outbreak of enteric fever at West Ham was reported to Dr. Collingridge. Among 52 cases notified it was found that 24 had eaten cockles shortly before the onset of the illness. It was further found that the majority of these cockles had been purchased from a dealer in the Billingsgate Market who obtained his supplies from Leigh-on-Sea. Accordingly, measures were taken to investigate the condition of the cockles sold at Billingsgate. Between June 28th and 30th six samples of cooked cockles were obtained from Billingsgate and the Haddock Market, in each case the source of the cockles being Leigh-on-Sea. The samples were submitted to Dr. E. Klein, the City bacteriologist, who directed his observations to determine whether the interior of the fish contained living organisms which, like bacillus proteus, bacillus coli, and streptococci, are killed by temperatures of 154°–158° F.—i.e., 54°–58° below the temperature of boiling water, and also to ascertain whether they contained living bacilli of the Gärtner typhoid group. On making cultures from the stomach of the fish in every case colonies of bacillus coli and of streptococci were found and in two cases also bacillus proteus. One sample yielded also the "bacillus Gärtner or, at any rate, a microbe indistinguishable from it." Dr. Klein concluded that none of the six samples had been sufficiently heated and that they were therefore unsafe. Upon the receipt of Dr. Klein's report Dr. Collingridge at once notified the dealers concerned to discontinue the sale of cockles from Leigh-on-Sea and asked the Fishmongers' Company to give notice to the fishermen at Leigh-on-Sea to refrain from sending any more cockles to Billingsgate. In commenting upon the matter Dr. Collingridge points out that so long ago as December, 1903, cockles from Leigh-on-Sea were condemned as unfit for food on account of sewage contamination and it was then determined that they should only be allowed into the market on the distinct understanding that they were properly stored and efficiently cooked. Dr. Klein's report proved clearly that the cockles are still contaminated by sewage and that they have not been properly boiled—i.e., that the whole mass has not been raised to the temperature of 212° F. for a period of three and a half minutes. Apart from the fact that it is eminently undesirable that any shell-fish shall be exposed to possible contamination by sewage-polluted water, even if the danger is averted by boiling, it is evident that the undertaking of the fishermen to prevent contamination and to boil thoroughly has been neglected, hence Dr. Collingridge recommends that the sale of such cockles should be absolutely prohibited in the markets of the City of London, and further that in event of an infraction of this prohibition proceedings should be taken under Section 47 of the Public Health Act, 1891. These stringent measures are more than justified, and since it is probable that many of those who partake of cockles as an article of diet are quite unaware of the risks which they incur it is very important that they should be safeguarded from possible infection. It has been incontestably demonstrated that both oysters and cockles can be the means of starting an outbreak of enteric fever and we cordially commend the suggestion of Dr. Collingridge that the facts in regard to cockles should be reported to the Local Government Board as additional "evidence in support of the necessity for the long-delayed legislation for dealing with shell-fish." Oysters and cockles—the poor man's oysters as the latter have been called—are pleasant and useful articles of diet which many people wisely forego because of the uncertainty of any guarantee of freedom from risk. We are glad that the matter as concerns the question of cockles has been so thoroughly dealt with by the authorities of the City of London. Their example might be copied by other local bodies with advantage and it is right that the public should know the facts in this respect.

"WATER CURES" AND RETENTION OF URINE.

AT this time of the year, more especially when a considerable number of persons are taking "cures," with and without professional advice, in various places, where the drinking of large and unusual quantities of water constitutes an important part of the treatment, it is necessary that care should be taken in reference to a point which is not always thought of. The human male bladder, though tolerant and capable of adapting itself to various degrees of distension with impunity when its relations to other parts are normal, is liable to be suddenly, and sometimes seriously, incommoded when this is not so. This is a fact so generally recognised by medical practitioners that patients who are known to have some degree of enlargement of the prostate are usually cautioned against indulging in excesses of any kind where over-distension of the bladder may inadvertently or otherwise follow. Many persons who were in the course of nature gradually developing a large prostate have been known to connect an urgent attack of retention of urine and the commencement of what eventually proved to be a "catheter life" to an over-distension first noticed in the latter circumstances. Hence a warning note in reference to this point from our readers to their patients may not be out of place at this season of the year. To be forewarned in cases of this kind is to be forearmed. If some individuals incur a liability of this kind where the use of medicinal waters is otherwise indicated it is better that they should know it. Such knowledge need not necessarily contra-indicate treatment at spas;

on the contrary, it tends to greater security and the avoidance of risks of this nature. It has not infrequently occurred that a retention of urine happening in this particular way has been the first intimation to the patient of the considerable size that the prostate has attained. Many enlarged prostates are absolutely "symptomless" until a considerable retention of normal urine has been arrived at. This possible phase of a hypertrophied gland should not be passed by without notice in advising on a "water cure."

A SHORT vacation course of 24 demonstrations and lectures will commence on Monday, August 13th, at the Post-Graduate College of the West London Hospital. The fee for the course (including one month's hospital practice) is £2 2s., or £1 11s. 6d. for 14 days' hospital practice, including lectures. No extra fee is made to yearly or perpetual students. Practitioners wishing to join this course, or desiring further information about the Post-Graduate College, should apply to the Dean, Mr. L. A. Bidwell, at the hospital.

THE presidential address at the British Association for the Advancement of Science was delivered on August 1st at York, by Professor E. Ray Lankester. The main theme of his address was the advance in science during the last 25 years, and the necessity that the State should recognise the value of science more than it has hitherto done.

THE IMPERIAL CANCER RESEARCH FUND.

As already mentioned on p. 243 of our issue of July 28th the annual meeting of the Imperial Cancer Research Fund was held on July 25th at the Examination Hall of the Royal Colleges of Physicians and Surgeons on the Thames Embankment. The chair was taken by Lord STRATHCONA, one of the Vice-Presidents of the Fund. The report of the executive committee stated that the fourth meeting of the general committee was held at Marlborough House on July 5th, the President of the Fund, His Royal Highness the Prince of Wales, being in the chair.

Two papers entitled "On the Occurrence of Heterotypical Mitoses in Cancer" and "The Experimental Analysis of the Growth of Cancer" have during the year been presented to the Royal Society by Dr. Ernest F. Bashford, the general superintendent and director of the central laboratory, and Dr. James Alexander Murray. The executive committee made special mention of its regret at the publicity which various newspapers and periodicals afforded to misleading notices of so-called "cancer cures."

In the financial report, Mr. HENRY MORRIS, the honorary treasurer, stated that during the year ended June 24th, 1906, the income of the Fund was £4664, of which £2315 were contributions received from various donors and £2349 were derived from investments. The contributions were less by £808 than in the financial year 1904–05. The total expenditure during the year just ended was £3783, an amount more than £1400 in excess of the income derived from investments. Mr. Morris expressed much regret at the falling off in the contributions and pointed out that the requisite expenses, if the research work is to be efficiently carried on, cannot average much less than £4000 a year. To meet this there will be required an endowment fund of about £130,000, or £50,000 more than the Fund at present possesses.

Dr. BASHFORD'S report contained a lengthy and detailed account of recent experimental investigations arranged under the three headings of constitutional susceptibility, analysis of the growth of cancer, and attempts to modify the growth of tumours. The experimental work consisted chiefly in the investigation of malignant mammary tumours in mice. The principal results thereby obtained are summarised in Sir William Church's address now published and in the leading article which appears on p. 305 of our present issue. In conclusion, Dr. Bashford said that the new facts revealed by statistical studies—namely, the increasing frequency of sarcomata as age advances and the minimum in the cancer death rate between five and 15 years after birth—were entirely unforeseen, as were also the distribution of the disease throughout the vertebrates and the association of cancer with senescence in the lower animals.

In moving the adoption of the report Sir WILLIAM CHURCH, Bart., the chairman of the executive committee, said:—I rise to move the adoption of the annual report of the Fund; it is in your hands and I presume that it is not your wish that it should be read *in extenso*. The report consists of three parts—the report of the executive committee, giving a general summary of the work done by the Imperial Cancer Research Fund; the treasurer's report, showing the financial position of the Fund; and the report of the general superintendent of the research. You will see from the report of the executive committee that our postal authorities have at last recognised the harmless character of specimens sent to us through the post from foreign countries; it required a series of questions in the House of Commons to convince them that perfectly harmless parcels should not be classed as dangerous because the words "cancer" or "malignant growth" occurred in the declaration of their contents. The more enlightened views of the postal authorities on the continent were accepted by our authorities at the late International Postal Convention at Rome, and properly preserved and packed specimens are now admitted to the international post. We have, however, to regret the destruction by the authorities at St. Martin's-le-Grand of some 100 specimens from India and other countries on the grounds that they controverted the interpretation our postal authorities placed on the regulations. It has not been considered by the executive committee expedient this year to publish a volume of our scientific report embodying the work which has been done since we last met. We have been engaged in carrying out the research on lines similar to those recorded in our second scientific report and more time is required and a larger amount of experimental and statistical investigation must take place before it is desirable to publish another volume. It is not that our work has been barren during the past year; on the contrary, we can confidently state that the progress made in the study of cancerous growths, especially that made during the past year, makes a very distinct advance in our knowledge of the subject, and encourages us to proceed on the lines we are now working on. Our efforts this year have been confined to a smaller number of definite lines of inquiry than was advisable during the first years of our research, when we were, as it were, feeling our way as to how the difficult problem we are endeavouring to solve should be approached. In moving the adoption of this report I especially wish to bring to your notice the enthusiasm with which our work has been carried on by the superintendent, Dr. Murray and Mr. W. H. Bowen, F.R.C.S. Eng., and to inform you that, although no scientific report of their work is to be placed in your hands this year, very valuable papers have been communicated by Dr. Bashford and Dr. Murray to the Royal Society and other societies and that Dr. Bashford has been deputed as representing the Fund to attend the meeting of the British Medical Association at Toronto this year and the International Congress on Cancer at Heidelberg and Frankfort. The Imperial Cancer Research Fund is again indebted to the Foreign, Colonial, and India Offices for much valuable assistance during the year and also desires to return its best thanks to many members of the medical and veterinary professions for services freely rendered to it.

I will now very briefly mention some of the more generally interesting features of our work during the past year. The statistical investigation has been steadily pushed on and arrangements have been made with a number of provincial hospitals which are in a position to do so to furnish us with records similar to those obtainable from the metropolitan hospitals. Through the courtesy of Baron Takaki information has been received as to the supposed death-rate from cancer in Japan. It is extremely desirable that as full information as possible should be obtained from Japan that we may see if, as statistical methods improve there and medical knowledge becomes more general, the rate of deaths from cancer also advances. Additional cases have been reported from India and from various aboriginal races, but it would be fallacious to draw any conclusions either as to the relative frequency of

internal to external cancer in those races or to the effect of diet from the data at present collected. Statistical data continue to be accumulated of the occurrence of cancer in other animals than man, and during the past year additional opportunities have occurred of investigating experimentally the similarities and differences between cancer met with accidentally and that which had been propagated from Jensen's tumour. These experiments go to confirm the opinion held by our scientific staff that Jensen's tumour is really a mammary carcinoma. Since this investigation began spontaneous cancer has been found in 34 mice and this year we have succeeded in breeding from mice spontaneously affected by cancer; if this race of mice can be perpetuated it may help to throw light on that most interesting and important question—the heredity of cancer. Closely akin to the question of heredity is another hardly less important. Does the growth of cancer depend on some particular susceptibility on the part of the individual? The results of more than 25,000 inoculations of Jensen's tumour show that very remarkable fluctuations occur in the rate of successes in transplantations and in the amount of growth in them, and these fluctuations appear to be natural features in the growth of cancer under artificial propagation and to depend rather on the powers of growth inherent in the transplanted cancer cells than in any difference in the susceptibility of the animals. In a series of transplantations from the same tumour a time comes when many of the transplantations after a certain amount of growth cease to increase and are frequently entirely absorbed. A further study of these fluctuations may lead to a better knowledge of the nature of cancerous proliferation and its mode of origin. A large number of attempts have been made to modify the growth of well-established experimental tumours. Exposure to the action of radium has not given very encouraging results, the tumours which disappeared during its action belonged to that portion of a series in which many disappeared naturally, and it would be rash to conclude that their disappearance was due to its influence. No satisfactory results were obtained with any of the other "cancer cures" investigated.

Many observations have been made on the susceptibility of mice to inoculations with Jensen's tumour and with cancerous growths found occurring spontaneously. Mice in which transplantations of Jensen's tumour developed for a time and then were absorbed appear to have received a large measure of protection against further inoculation; in one series of experiments 70 inoculations only gave rise to four tumours, while the control experiments on mice not previously inoculated gave from 50 to 90 per cent. of successes. A similar but less decided immunity was met with in the case of animals which had recovered from inoculation with spontaneous cancer and were subsequently reinoculated with Jensen's tumour. The injection of the blood of a normal healthy mouse into another mouse appears also to confer a certain amount of protection against the successful transplantation of Jensen's tumour. As in all these experiments the injections were made at a spot far removed from the site of the transplantation the results obtained suggest that their effects were produced by some change in the fluids of the body. I desire to draw your attention particularly to those experiments as they may be misunderstood. They suggest that in this way a certain measure of immunity can be afforded to mice against the successful transplantation of cancer but they have not arrested with certainty the development of experimental tumours, nor as yet are we able to judge of their effect on cancerous growths occurring spontaneously. The results which have been already observed point to the importance and necessity for further experimental work and we may hope that the knowledge we are now obtaining from the study of experimental cancer may lead to our obtaining some power of control over cancer occurring spontaneously.

Mr. MORRIS in seconding the motion, spoke of the necessity for increased financial support being provided.

Lord STRATHCONA in putting the motion expressed the hope that the result of the research would be the discovery of a means for relieving a great amount of misery.

The motion was then adopted.

Professor G. Sims Woodhead was re-elected a representative of the general committee on the executive committee.

The proceedings terminated with a vote of thanks to the Chairman.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on July 26th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that the Bradshaw lecture would be delivered on Nov. 6th by Dr. S. J. Sharkey, on Rectal Alimentation; the FitzPatrick lectures (two) on Nov. 8th and 13th by Dr. Norman Moore, on the History of the Study of Clinical Methods in the British Islands; and the Horace Dobell lecture on Nov. 15th by Dr. F. W. Andrewes, on the Evolution of the Streptococci.

The following gentlemen having passed the required examination were admitted as Members of the College: John Telfer Calvert, M.B. Lond., L.R.C.P. Lond.; Thomas Edwyn Cecil Cole, M.A., M.B. Oxon., L.R.C.P. Lond.; Henry Roy Dean, B.A., M.B. Oxon., L.R.C.P. Lond.; and George William Ross, M.B. Toronto, L.R.C.P. Lond.

Licences to practise physic were granted to 103 gentlemen who had passed the necessary examination.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following gentlemen: John Howard Lidgett Campston, M.B., B.S. Melb.; Lancelot Hugh Downman Hale, L.R.C.P. Lond., M.R.C.S. Eng.; John Molyneux Hamill, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S. Eng.; Jonas William Leake (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; Hugh Allan Macewen, M.B., B.S. Glasg.; Sidney Herbert Nathan, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S. Eng.; Lionel Edmund Longworth Parker (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; Thomas Pnare Puddicombe, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S. Eng.; Daniel Macpherson Taylor, M.D., M.S. Glasg.; John Francis Taylor, M.R.C.S. Eng., L.S.A.; William John Thomas, L.R.C.P. Lond., M.R.C.S. Eng.; Jack Mowbray Thomson, M.B., M.S. Sydney; Henry Beckles Gall Walton (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; Hugh George Stiles Webb (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; and Charles Savill Willis, M.B., B.S. Sydney, L.R.C.P. Lond., M.R.C.S. Eng.

The following communications were received:—

1. The reply of the Emeritus Registrar, Sir Henry Alfred Pitman, to the congratulations of the College on the ninety-eighth anniversary of his birth, July 1st, 1906.

2. From Dr. W. Balls-Headley, appointed to represent the College at the recent jubilee of the University of Melbourne.

3. From the Secretary of the Royal College of Surgeons of England, reporting certain proceedings of the Council of the College on June 14th and July 12th.

On the nomination of the Council the following Censors, College officers, and examiners were unanimously elected:—Censors: Dr. Frederick Thomas Roberts, Sir Thomas Barlow, Bart., Dr. John Mitchell Bruce, and Professor Thomas Clifford Allbutt. Treasurer: Sir Dyce Duckworth. Emeritus Registrar: Sir Henry Alfred Pitman. Registrar: Dr. Edward Liveing. Harveian Librarian: Dr. Joseph Frank Payne. Assistant Registrar: Dr. Oswald Auchinleck Browne. Elected members of the library committee: Dr. Norman Moore, Professor William Osler, Dr. Archibald Edward Garrod, and Dr. Humphry Davy Rolleston. Curators of the Museum: Dr. Henry Charlton Bastian, Dr. William Cayley, Dr. William Henry Allchin, and Dr. Seymour John Sharkey. Finance committee: Dr. David Bridge Lees, Dr. Francis Henry Champneys, and Sir Edwin Cooper Perry. Examiners: Chemistry—Mr. John Millar Thomson, F.R.S., and Mr. George Senter, Ph.D., B.Sc.; Physics—Mr. John Addyman Gardner, F.C.S., F.I.C., and Mr. Frederick Thomas Trouton, F.R.S.; Materia Medica and Pharmacy—Dr. Cyril Ogle, Dr. Joseph John Perkins. Dr. Robert Arthur Young, Dr. James Purves Stewart, and Dr. Otto Fritz Frankau Grünbaum; Physiology—Professor William Dobinson Halliburton, Dr. Ernest Henry Starling, and Dr. Bertram Louis Abrahams; Anatomy—Dr. Peter Thompson and Dr. Robert Howden; Medical Anatomy and Principles and Practice of Medicine—Dr. Francis de Havilland Hall, Dr. Theodore Dyke Acland, Dr. George Newton Pitt, Dr. William Collier, Dr. Hubert Montague Murray, Dr. Norman Dalton, Dr. Humphry Davy Rolleston, Dr. Frederick John Smith, Dr. Arthur Pearson Luff, and Dr. Walter Essex Wynter; Midwifery and Diseases Peculiar to Women—Dr. Francis Henry Champneys, Dr. John Phillips, Dr. Herbert Ritchie Spencer, Dr. William John Gow, and Dr. Thomas Watts Eden; Public Health: Part I.,

Dr. William Henry Willcox; Part II., Mr. Alexander Grant Russell Foulerton.

Dr. Sidney H. C. Martin was re-elected as the representative of the College on the executive committee of the Imperial Cancer Research Fund.

The recommendation of the council that the Moxon medal be awarded to Jonathan Hutchinson, F.R.C.S. Eng., LL.D., D.Sc., F.R.S., as having specially distinguished himself by observation and research in clinical medicine was carried by acclamation.

A report was received from the chairman of the classification committee (Dr. P. H. Pye-Smith) on the completion of the "Nomenclature of Diseases, 1906."

Dr. PYE-SMITH reported that the fourth edition, being the third revision of this work, was now completed and paid a high tribute of appreciation of the assistance which the committee had received from various Fellows of the College and other gentlemen, with especial reference to Dr. Ormerod, the secretary of the committee, and Mr. S. G. Shattock who, in addition to serving on several of the subcommittees, had prepared the Latin translation.

A vote of thanks was accorded to Dr. Pye-Smith and it was directed that the thanks of the College should be conveyed to those gentlemen who had assisted.

On the motion of the Senior Censor (Dr. F. J. PAYNE) it was resolved that the best thanks of the College be presented to Dr. Ormerod and that he be asked to accept an honorarium of 200 guineas for his services as secretary to the committee.

Reports were received from the committee on the midwifery curriculum and from the Students' Practical Midwifery Committee of the General Medical Council. These were referred to the committee of management.

A report dated July 9th containing the following recommendations was received from the committee of management and was adopted:—

1. That the Transvaal Technical Institute, Johannesburg, be added to the list of institutions recognised by the board for instruction in chemistry and physics.

2. That the course of instruction in the administration of anæsthetics given at Cardiff Infirmary in connexion with University College of South Wales and Monmouthshire be recognised as fulfilling the conditions of clause 3, paragraph xxi., section ii. of the regulations of the Examining Board in England.

3. That the course of clinical instruction in ophthalmic surgery given at the Royal Eye Hospital, Southwark, be recognised as fulfilling the conditions of clause 4, paragraph xxi., section ii., of the regulations of the Examining Board in England.

The quarterly report of the College finance committee was received and adopted.

The annual report of the library council was received and adopted. The Harveian Librarian (Dr. PAYNE) proposed and the Second Censor (Dr. NORMAN MOORE) seconded that certain duplicate works should be presented to the library of the Johns Hopkins Hospital through Professor W. Osler.

The annual report of the Curators of the Museum was received and adopted.

A list of books and other publications presented to the library during the past quarter was received and the thanks of the College were accorded to the donors. Among those specially mentioned were gifts from Professor Osler, Sir Dyce Duckworth, and Mr. William Fleming.

The quarterly report of the examiners for the Licence on the results of the examinations in April last was received and adopted.

After the newly elected officers, examiners, and members of standing committees had given their faith to the College the PRESIDENT dissolved the Comitia.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on July 26th at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. A letter was received from Dr. J. Ward Cousins regretting his inability to attend the meeting of the Board and drawing attention to the following resolution passed by the Council of the Royal College of Surgeons of England on July 12th, 1906:—

That in the opinion of the Council of the Royal College of Surgeons of England it is essential for the efficient working of the Midwives Act that adequate provision be made to secure just remuneration for professional services rendered by medical men when called into attendance by midwives practising under the Act.

A letter from the Privy Council dated July 24th, 1906, as to the revised rules was read. The chairman observed that the amendments proposed by the Privy Council would place the Poor-law institutions out of the sphere of the Central Midwives Board and put them under the Local Government Board. Mr. E. Parker Young expressed his surprise at the letter of the Privy Council and said it seemed to him a retrograde movement. The Board decided to refer the letter to the standing committee for consideration and report. The following is a copy of the letter from the Privy Council.

Privy Council Office, London, S.W., 24th July, 1906.

SIR,—Referring to your letter of the 9th May last I am directed by the Lords of the Council to state that their lordships have given their careful consideration to the revised rules made by the Central Midwives Board and to request that you will lay before the Board the following amendments that are deemed necessary therein:

As to Rule D, 1 which takes the place of the existing Rule C, 1 their lordships observe that the principal alteration is the omission of the special provision relating to the case of candidates from Poor-law institutions. This provision was inserted at the instance of the Local Government Board and they are still of opinion that some such provision is necessary.

Their lordships' attention has been called to a resolution passed by the Central Midwives Board on the 16th February, 1905, "that no Poor-law institution be approved as a training school for midwives unless the average number of deliveries reaches 75 per annum" and also to a discussion which took place at a recent meeting of the Central Midwives Board on a memorandum which suggested that "in future, as a rule, a number of not less than 60 cases of labour annually be essential for an application to be approved from a doctor desiring to teach pupils in an infirmary or workhouse which is too small to be a recognised school"; and I am to point out that in their lordships' opinion resolutions which have the effect of "regulating the course of training" come within the purview of Section 3, 1 (c) of the Act and consequently should be embodied in rules to be submitted to the Privy Council for approval.

The alterations which their lordships consider expedient are shown in the inclosed copy of the new Rule D, 1.

Further, as to Rule E, 24, which takes the place of the existing Rule E, 21, their lordships think it is desirable that the rule should be maintained in its present form—so far as Poor-law institutions are concerned.

Their lordships are, moreover, advised that it would be desirable in the interests of public health and in connexion with the problem of infant mortality that a rule should be added to Section E, making it the duty of midwives—where the supervising authority requires it—to notify within 48 hours to such authority every birth occurring in their practice together with the name and address of the parent.

I am to add that, with a view to insuring sufficient consideration of the amendments to the draft rules, their lordships propose to extend the existing rules for another six months from the date of their expiry on the 12th August next.

I am, Sir, your obedient servant,
(Signed) A. W. FITZROY.

To Secretary, Central Midwives Board.

COPY OF PROPOSED RULE D, 1, WITH SUGGESTED ADDITIONS IN ITALICS.

1. No person shall be admitted to an examination unless she produces certificates that she has undergone the following course of training, viz.: 1. She must, under supervision satisfactory to the Central Midwives Board, *or, where the course of training has been undergone in a Poor-law institution, to the Local Government Board*, have attended and watched the progress of not fewer than 20 labours, making abdominal and vaginal examinations during the course of labour, and personally delivering the patient. (Schedule, Form III.) 2. She must, under supervision satisfactory to the Central Midwives Board, *or, where the course of training has been undergone in a Poor-law institution, to the Local Government Board*, have nursed 20 lying-in women during the ten days following labour, except in special cases in which a shorter period has been sanctioned by the *Central Midwives Board*. (Schedule, Form IV.) The certificates as to (1) and (2) must be in the form prescribed by the Central Midwives Board and must be signed by one or more of the following: (*a*) a registered medical practitioner. (*b*) The matron, being a certified midwife, or the chief midwife, being a certified midwife, of an institution recognised by the Board as a training school under the conditions provided in the Act. (*c*) A certified midwife approved by the Board for the purpose. (*d*) *Where the course of training has been undergone in a Poor-law institution a certified midwife attached to such institution and holding a qualification in midwifery satisfactory to the Local Government Board.* 3. She must have attended a course of instruction in the subjects enumerated in Rule D, 4, extending over a period of not less than three months and consisting of not fewer than fifteen lectures. The certificate as to (3) must be in the form prescribed by the Central Midwives Board and must be signed by one or more registered medical practitioners recognised by the Board as teachers, *or where the course of instruction has been undergone in a Poor-law institution by the duly appointed chief medical officer of the institution or other medical practitioner authorised by the guardians with the approval of the Local Government Board to give such instruction.* (Schedule, Form V.)

A letter was read from Dr. E. Walford, medical officer of health of Cardiff, stating that the difficulty experienced by certain Welsh candidates in taking their examination in English would be entirely met by the presence of an interpreter at the oral examination. A letter was considered from the Local Government Board forwarding a copy of a letter from Mr. J. R. S. Park, medical officer of health of Dukinfield, as to the disinfection of the clothing of midwives who have been in attendance on cases of puerperal fever. The Board decided that it should be pointed out

to the Local Government Board that the new rules as submitted to the Privy Council for approval provide for disinfection being carried out to the satisfaction of the local supervising authority. A letter was read from Dr. J. Wheatley, medical officer of health for the county of Shropshire, as to the definition of "practising as a midwife." The Board decided that Dr. Wheatley should be informed that the question as to whether a woman is practising as a midwife when in attendance at a confinement depends upon whether a qualified medical practitioner has been engaged to attend the case.

FOUNDER'S DAY AT EPSOM COLLEGE.

FOUNDER'S DAY was celebrated at Epsom College on July 28th, there being a very large attendance of parents and relatives of the boys and of friends of the institution. Special interest was given to the occasion this year in consequence of a sale of work taking place in the grounds in aid of the fund for a jubilee memorial window in the college chapel. The proceedings commenced as usual with choral evensong in the chapel at 2.45 P.M., after which the distribution of prizes took place in the big school-room. Amongst those on the platform were Lord Monkswell (who distributed the chief prizes of the year), Sir William S. Church, Bart. (chairman of the council), Mr. Henry Morris (the treasurer of the college, an old Epsomian, who was recently elected to the office of President of the Royal College of Surgeons of England), Sir Constantine Holman, M.D., the Rev. E. W. Northey (deputy chairman of the council), the Rev. T. N. Hart Smith-Pearse (headmaster), Mr. Stanley Boyd, Dr. John H. Galton, Dr. Clement Godson, Mr. John H. Morgan, C.V.O., Dr. F. Needham, Mr. Frederick N. G. Propert (the only surviving son of the founder of the college, who gave away the "Propert" prize, which is awarded to the winner of the greatest honour of the year), and Mr. Clement Locke Smiles.

The official statement of the distinctions gained since the last founder's day directly from the school comprised the following: an open classical scholarship at Selwyn College, Cambridge, seven passes in the whole of the preliminary scientific examination for the degree of M.B. or B.S. of the University of London, and three passes in part of that examination; five higher certificates and 36 lower certificates (with 39 first classes) of the Oxford and Cambridge schools examination board; and 15 passes at the matriculation examination of the University of London, three being in the first division. Amongst the honours gained by former pupils are: A. C. C. Parkinson, scholar of Magdalen College, Oxford, election to a Goldsmith scholarship; L. Sworn, scholar of New College, Oxford, first class in the final mathematical school; T. S. B. F. de Chaumont, scholar of Selwyn College, Cambridge, senior optime in mathematical tripos; C. E. Seccombe, scholar of Keble College, Oxford, second class in classical moderations; A. Master, pass into the Indian Civil Service, taking forty-sixth place; L. Warren, first on the list and prize-winner at the recent examination for surgeons in the Royal Navy; Dr. W. E. Wynter and Mr. Bilton Pollard appointed examiners respectively to the Royal College of Physicians of London and the Royal College of Surgeons of England.

The chief prize-winner of the year was G. L. Vivian, who took amongst others the Forest exhibition of £50 a year for three years; the Wakley prize of £15 and a certificate, founded in memory of the late Mr. Thomas Wakley and given for good conduct and industry on the recommendation of the masters and by the vote of the boy's schoolfellows; and the Propert prize of £15 with a bronze medal.

After the headmaster had reviewed the work of the year, which had been satisfactory in all respects, and the prizes had been distributed, Lord Monkswell gave an excellent address to the boys, maintaining their interest by the introduction of suitable anecdotes and concluding by quoting Huxley's well-known definition of a liberal education:—

> That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of Nature or of art, to hate all vileness, and to respect others as himself.

Mr. HENRY MORRIS moved a cordial vote of thanks to Lord Monkswell, which was seconded by Sir WILLIAM S. CHURCH, and carried with acclamation.

The visitors then adjourned to the grounds, where refreshments were served, Mr. Glenister's orchestra performing a long selection of music. There were no fewer than ten stalls in connexion with the sale of work, besides numerous forms of entertainment.

BRITISH PHARMACEUTICAL CONFERENCE.

THE annual meeting of the British Pharmaceutical Conference was held at Birmingham from July 23rd to 26th. The proceedings were opened with a reception, held at the Council House by the Lord Mayor and Lady Mayoress, Councillor and Mrs. A. J. Reynolds. The local executive committee of pharmacists was supported by many representatives of the medical profession, including Sir James Sawyer, Dr. T. Savage, Dr. E. Smallwood Savage, Dr. Lloyd Owen, Mr. L. P. Gamgee, and Dr. J. Martin Young. The presidential address was delivered by the President, Mr. W. A. H. Naylor, F.I.C., who took for his subject the investigation of crude drugs. He summarised the results of previous workers and indicated the lines on which future investigators should proceed in attempting to isolate and to identify active principles, and to solve other problems of a cognate character. He pointed out that the demands on the knowledge and skill of the pharmacist are becoming increasingly heavy. The pharmacist is charged primarily with the responsibility of dispensing physicians' prescriptions and presenting in their most active and approved forms preparations of drugs for administration by the medical practitioner. But, in addition, the pharmacist is required to isolate and to supply the active constituents of new drugs, to keep himself *au courant* with recent literature on the chemistry of drugs, and, by carrying out investigations, to add to the common stock of this branch of knowledge. The guiding principles to be kept in view in pursuing this inquiry are: (1) How far can the newer knowledge acquired by the chemical and physiological investigations of drugs be usefully applied to the determination of their strength? and (2) In what cases is there a lack of common agreement in the isolation of principles by different workers? Mr. Naylor illustrated his address by reference to aloes, balsam of tolu, cantharides, cascarilla, euonymus, gelsemium, ginger, guaiacum resin, hops, lobelia, male fern, myrrh, senega, and veratria. In the case of aloes it is generally conceded that Barbados (Curaçoa) aloes is more active than any of the other varieties, but Mr. E. M. Holmes, curator of the museums of the Pharmaceutical Society, affirms that Cape aloes is the most purgative variety. Professor Tschirch and Mr. Pedeson attribute to the aloe-emodin the property of exercising an important influence on the medicinal action of aloes. It is not precisely known to what extent aloe-emodin exists *per se* in the different kinds of aloes. In the past aloin was considered to be the sole active constituent but at the present time it is recognised that though aloin is the chief constituent it is by no means the only one, hence any valuation of aloes based simply on the aloin content is open to objection. Recent investigation has proved that the resinous constituents of aloes are quite inactive. Passing to the consideration of cantharides Mr. Naylor drew attention to the fact that the official liquor epispasticus occasionally fails to answer the required purpose, owing probably to the fact of the considerable variation of commercial cantharides in the yield of cantharidin, the blistering principle. Mr. Naylor pointed out that when the cantharides are applied in the form of a plaster the blistering action appears to vary with the coarseness of the powder. He cited cases where the official plaster, when made with Spanish fly in fine powder, had failed to raise a blister, whereas a satisfactory action had been obtained by the use of the coarsely powdered cantharides. He suggested that the reiterated recommendation of Professor H. G. Greenish, Mr. Harold Wilson, B.Sc.,

and others to replace the crude drug by an equivalent quantity of cantharidin in the official preparations is deserving of serious consideration by clinicians. Referring to cascarilla Mr. Naylor commented on the varying quality of the drug, the chief constituents of which include a bitter substance, cascarillin, an essential oil, and a resin. It is probable that the medicinal properties of the drug are due to those constituents. Cascarillin is so readily obtained in a state of purity that it is a matter of surprise that so little is known of its pharmacological action or medicinal use. If the therapeutic value of the drug depends on the presence of an agreeable bitter principle then cascarillin might with advantage be administered in place of the usual galenical preparations of cascarilla. Mr. Naylor said that from his own experience of the drug the variations in quality are due to a deficiency of the bitter principle cascarillin in many samples that have been imported during recent years. In regard to the present knowledge of gelsemium Mr. Naylor stated that the root contains two alkaloids—the crystalline gelsemine and the amorphous gelseminine. Of these, the latter is physiologically much more active than the former. In the case of male fern there is at present no known chemical method of determining the vermifugal activity of the ethereal extract. Clinical observation has repeatedly made clear the fact that this preparation sometimes contains a toxic body in addition to the vermifugal constituents. Senega is another drug that requires further investigation, as it is not at present known to what principle or principles the therapeutical action of the drug is due. In conclusion Mr. Naylor referred to the lamentable fact that drugs of second and third qualities are still marketable commodities. Such drugs are used in the preparation of official galenicals which necessarily are not of standard strength.

The papers that were read at the subsequent sessions of the conference were mainly of pharmaceutical interest, dealing chiefly with the improvement of galenical processes and the standardisation of medicines. Reference may be made to a paper by Mr. E. F. Harrison, B.Sc., F.I.C., and Mr. D. Gair, B.Sc., A.I.C., on the Examination of 13 Commercial Samples of Malt Extract. Of these only three possessed a satisfactory diastatic value, as determined by the weight of starch converted by one part of extract. It is obvious that a malt extract deficient or wholly wanting in diastatic power is useless as a medicine and if regarded as a food it offers no advantage over treacle, which it much exceeds in price. The four best samples had diastatic powers of 468, 356, 346, and 268 respectively, another had a diastatic value of 137, while the values of the remainder fell well below 100, two samples having no diastatic value whatever. Mr. T. Slater Price, D.Sc., Ph.D., of Birmingham, communicated a suggestive paper on Some Applications of Physical Chemistry to Pharmacological Problems. Dr. Price considered the question of the toxic and disinfecting action of certain salts, including the chloride, bromide, and cyanide of mercury. He showed the influence of sodium chloride in diminishing the disinfectant properties of a solution of mercuric chloride. From a table given by Dr. Price the dissociation (and toxic effect) of the mercuric chloride is diminished considerably by the addition of sodium chloride. Eight colonies developed from anthrax spores placed in a solution of one molecular weight in grammes of mercuric chloride in 16 litres of water; when one molecular weight of salt was added to this quantity of water 32 colonies developed, while the numbers of colonies developed when two, three, four, and ten molecular weights of salt were added were 124, 282, 382, and 1087 respectively. With these and other illustrations Dr. Price showed the value of applying physical chemistry to pharmacological problems.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on July 26th, Mr. HENRY MORRIS, the President, being in the chair.

It was resolved to issue diplomas of Membership to 103 successful candidates and to issue in conjunction with the Royal College of Physicians of London diplomas in public health to 15 candidates.

The annual report of the Finance Committee was approved and adopted. The gross income of the College for the past year was £25,361, being £394 less than in the previous year. The expenditure for the year was £23,031 and the balance of income over expenditure amounted to £2329.

A report from the board of examiners in dental surgery was received and adopted. The report recommended the following changes: (*a*) that the period of instruction in mechanical dentistry required for the licence in dental surgery should be reduced from three to two years; and (*b*) that students should be admissible to the First Professional Examination as soon as they can produce the required certificates without necessarily completing six months' attendance at a dental school and hospital.

A report was received from the committee on the question of admitting women to the examinations of the College. It was resolved to take counsel's opinion on the interpretation of the Acts and Charter as regards the corporate status of women if admitted as Fellows and Members.

The PRESIDENT stated that, in accordance with the wish of the Council, he had forwarded to the President of the Privy Council a copy of the resolution carried at the last meeting of the Council on the subject of the remuneration for professional services by medical men when called into attendance by midwives practising under the Midwives Act. A letter was read from the clerk of the Privy Council stating that the question will be carefully considered in connexion with any amendment of the Act.

Mr. John Tweedy and Mr. Edmund Owen were appointed members of the executive committee of the Imperial Cancer Research Fund and Mr. H. T. Butlin was re-appointed a member.

Mr. TWEEDY, on behalf of Mr. Edward Clapton, F.R.C.S. Eng., presented a branch of the plane tree under which Hippocrates taught more than 2300 years ago in the Island of Cos and a photograph of the tree which is still living. The best thanks of the Council were given to Mr. Clapton for his very interesting gift.

It was resolved to present an address of congratulation to the University of Aberdeen on the occasion of the celebration of its quater-centenary in September.

MEDICINE AND THE LAW.

Factory Regulations and the Hot Weather.

A SUMMONS taken out by the Home Office authorities against Messrs. R. Bell and Co., Limited, the well-known match manufacturers, recently showed that the hot weather had been responsible for a breach of the law on their part, for which Mr. Cluer inflicted a fine of 40*s.* with 2*s.* costs. The offence consisted in allowing the process of dipping to be carried on without the use of exhaust fans and other prescribed appliances for protecting the worker from the fumes of the phosphorus used, in respect of which appliances special regulations have been framed for observance in these particular works. The dipping operations forming the subject of the summons were carried on in a yard upon the day in question owing to the heat instead of in the usual and properly equipped workrooms. It was pointed out by Mr. Bellhouse, inspector of factories, that such a proceeding laid the workpeople open to those dangers which the special regulations had been framed to protect them from. It was stated on behalf of the defendants that had the work not been removed to the yard as described about 140 hands would have been temporarily thrown out of work, and the magistrate in imposing a nominal penalty seems to have accepted this view. Hot weather, however, is likely to occur in July and August, and it might be suggested that a factory should contain rooms not less cool and airy than a yard for the performance of any work for which a yard suffices.

The Power to Compel Medical or Surgical Treatment.

An important point has arisen several times during the last year out of claims under the Workmen's Compensation Act (1897). As is well known, an injured workman by that Act must submit himself to a physical examination by a medical practitioner before he can obtain an order for compensation. Now occasionally it happens that the medical examiner, either in his report or in the witness-box, states that a surgical operation or a course of medical treatment in all probability would greatly benefit the injured man and enable him to resume his former or another occupation. In law it is certain that the workman cannot

be compelled to submit to that operation or treatment prior to the final assessment of the compensation due to him as the result of the accident. On several occasions both in court and by arbitrators this legal position has been enunciated. Thus, in the Court of Appeal, in a definite case where this question arose, the Master of the Rolls declared that there was nothing in the Act of 1897 which allowed such a compulsion. Lately, however, a very dubious ruling was given in the Southwark county court where the judge is reported to have said:—

> I have no power to compel him to undergo the operation, but in order to induce him to do so I will reduce his allowance to a penny per week; and then if he does undergo the operation, and if it is unsuccessful, he can come to me again and apply to have the allowance increased.

In this case there was a very strong probability that the suggested operation would have restored, or at any rate have relieved, the injured man. In all these operations after accidents there is a risk, be it great or small, that a fatal issue might result, especially in severe operations which have to be performed upon a patient who has been anæsthetised. It is not improbable that if the workman succumbed during the surgical treatment the employer would repudiate all liability for compensation, as it would be alleged that the operation and not the precedent accident was the real cause of death. Hence, whenever at the suggestion of the court an injured workman does agree voluntarily to undergo an operation he should always take legal advice and come to a definite, if private, agreement with his employer, so that the latter would be bound to support his family should he die during or after the operation. Apart from a similar previous arrangement the employer would not be allowed to nominate a surgeon who could demand admission while the operation was being performed, although usually the need for this arrangement would not arise as the employer would be only too eager himself to pay the surgeon. In this connexion it may be recalled that a man who has feloniously wounded another can plead neither that the victim's death would not have occurred had he placed himself under proper and skilful advice and treatment, nor that had it not been for the unsuccessful line of treatment actually adopted the deceased man would still have been in the land of the living. Another item of interest is that even if a man agrees to allow an unnecessary operation, such a contract cannot in law be enforced, so that the pledged forfeiture of "a pound of flesh" in Antonio's bond would have been regarded as *pro non scripto* had Shylock attempted to enforce his unconscionable contract in an English court of justice.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8348 births and 3813 deaths were registered during the week ending July 28th. The annual rate of mortality in these towns, which had been equal to 11·7 and 12·0 per 1000 in the two preceding weeks, further rose to 12·6 per 1000 last week. During the first four weeks of the quarter the death-rate in these towns has averaged 12·2 per 1000, the rate during the same period being 11·9 per 1000 in London. The lowest death-rates last week in the 76 towns were 4·8 in Hornsey, 4·9 in Handsworth (Staffs), 5·6 in Northampton, 5·9 in Stockton-on-Tees, 6·2 in Hastings and in York, and 6·9 in Bournemouth; the highest rates were 17·3 in Warrington, 18·5 in Wigan, 18·7 in Huddersfield, 19·1 in Manchester, 19·5 in Bury, and 21·6 in Merthyr Tydfil. The 3813 deaths in the 76 towns showed an increase of 163 on the number in the previous week, and included 486 which were referred to the principal epidemic diseases, against 406, 361, and 424 in the three preceding weeks; of these 220 resulted from diarrhœa, 110 from measles, 56 from diphtheria, 48 from whooping-cough, 29 from scarlet fever, and 23 from "fever" (principally enteric), but not any from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns and to 1·5 per 1000 in London. No death from any of these epidemic diseases was registered last week in Hastings, Smethwick, Coventry, Wallasey, Barrow-in-Furness, Stockton-on-Tees, or Newcastle-on-Tyne, while they caused death-rates of 3·0 per 1000 or upwards in Devonport, Burton-on-Trent, Manchester, Huddersfield, and Halifax. The highest death-rates from measles occurred in Manchester, Salford, Huddersfield, Halifax, and Rotherham; from whooping-cough in Birkenhead; and from diarrhœa in West Ham, East Ham, Norwich, Handsworth (Staffs), and Warrington. The fatal cases of diphtheria showed the largest proportional excess in West Hartlepool, Salford, Hull, and West Ham; scarlet fever caused six deaths in London, five in Sheffield, three in Liverpool, three in Leeds, and two in Manchester; while of the 23 deaths referred to "fever," three belonged to London, three to Manchester, two to Devonport, and two to West Ham. One case of small-pox remained under treatment in the Metropolitan Asylums hospitals at the end of the week, against numbers declining from 13 to two at the end of the five preceding weeks; no new cases have been admitted during the past five weeks. The number of scarlet fever cases which had been continuously rising from 2225 to 2943 on the 14 preceding Saturdays, had further risen to 3042 on Saturday last; 408 new cases were admitted during the week, against 378, 406, and 413 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 118, 119, and 133 in the three preceding weeks, declined again to 101 last week, and were 19 below the corrected average in the corresponding week of the four preceding years 1902–05. The causes of 24, or 0·6 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. In 60 of the 76 towns, including West Ham, Bristol, Leicester, Nottingham, Salford, Sheffield, Hull, and Newcastle-on-Tyne, no uncertified death was registered during the week; there were three in London and in Birmingham, two each in Manchester, Leeds, Rotherham, and Gateshead, and one each in ten other towns.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·3, 14·3, and 13·7 per 1000 in the three preceding weeks, rose again to 14·3 in the week ending July 28th, and exceeded by 1·7 per 1000 the rate last week in the 76 large English towns. The rates in the eight Scotch towns ranged from 6·0 in Perth and 12·0 in Leith to 14·8 in Edinburgh and 15·0 in Paisley. The 489 deaths in the eight towns showed an increase of 19 on the number in the previous week, and included 23 which were referred to diarrhœa, 11 to whooping-cough, nine to "fever," six to measles, four to diphtheria, and two to scarlet fever, but not any to small-pox. In all, 55 deaths resulted from these principal epidemic diseases last week, against 63 and 40 in the two preceding weeks; they were equal to an annual rate of 1·6 per 1000, which was also the rate from the same diseases last week in the 76 large English towns. The deaths attributed to diarrhœa in the Scotch towns, which had been 22 and 11 in the two preceding weeks, rose again last week to 23, of which 13 occurred in Glasgow, four in Edinburgh, three in Aberdeen, and two in Dundee. The 11 fatal cases of whooping-cough showed a slight decline from the number in the previous week, and included seven in Glasgow and two in Aberdeen. The nine deaths referred to "fever" (including seven cases of cerebro-spinal meningitis) were in excess of the numbers in the two preceding weeks, and were all registered in Glasgow. The fatal cases of measles, which had been ten, 12, and seven in the three preceding weeks, further declined last week to six, of which four occurred in Edinburgh and two in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 54, 52, and 66 in the three preceding weeks, declined again last week to 52, and were 18 below the number in the corresponding period of last year. The causes of 19, or 3·9 per cent., of the deaths registered in the eight towns last week were not certified, the proportion in the 76 large English towns during the same week being only 0·6 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 18·7 and 20·9 per 1000 in the two preceding weeks, declined again to 20·1 per 1000 during the week ending July 28th. During the four weeks of the present quarter the death-rate has averaged 19·2 per 1000, the rates during the same period being 11·9 in London and 13·1 in Edinburgh. The 146 deaths of Dublin residents during last week showed a decrease of six from the number in the preceding week, and included ten

which were referred to diarrhœa and two each to measles, scarlet fever, and whooping-cough, but not any to small-pox, diphtheria, or "fever." These 16 deaths from the principal epidemic diseases showed an excess over recent weekly numbers and were equal to an annual rate of 2·2 per 1000, the death-rate last week from the same diseases being 1·5 per 1000 both in London and in Edinburgh. The ten fatal cases of diarrhœa were considerably in excess of those returned in any previous week of this year. The 146 deaths from all causes in Dublin last week included 21 of children under one year of age and 31 of persons aged 60 years and upwards; both these numbers showed a considerable decline from those returned in the previous week. Five inquest cases and four deaths from violence were registered; and 58, or 40 per cent., of the deaths occurred in public institutions. The causes of four, or 2·7 per cent., of the 142 deaths were not certified either by a registered medical practitioner or by a coroner, the proportion of uncertified deaths in London being 0·3 per cent. and in Edinburgh 8·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: A. R. H. Skey to the *Powerful*, for Sydney Medical Depôt; and A. Gaskell to the *President*, for special service, to represent the Admiralty at the meeting of military surgeons of the United States of America at Buffalo. Surgeons: W. L. Martin to the *President*, for three months' course at Baggott-street Hospital, Dublin; J. A. Forrest to R.M. Depôt, Deal. Civil Practitioner: E. Henry to be Surgeon and Agent at Sutton-bridge and Droveend detachment.

The undermentioned Staff Surgeons have been promoted the rank of Fleet Surgeon in His Majesty's Fleet:—Henry William Finlayson, Frederick Fedarb, Richard Cleveland Munday, Edward Carter Cridland, Frank Bradshaw, and Richard Francis Bate (dated July 28th, 1906).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Valentine G. Johnson, from Seconded List, to be Lieutenant (dated July 1st, 1906).

The undermentioned Lieutenants are confirmed in that rank:—Robert J. C. Thompson, Cecil J. Wyatt, Robert S. Smyth, Charles M. Drew, Archibald A. Sutcliff, Arthur G. Cummins, Archibald S. Littlejohns, William R. Galwey, Robert G. Archibald, Frank A. McCammon, William Egan, Robert G. H. Tate, Alexander Dawson, Frank Forrest, Victor C. Honeybourne, Clive T. Edmunds, Charles R. M. Morris, Richard E. U. Newman, Ernest W. M. Paine, Frederick D. G. Howell, William H. Gillatt, Patrick Sampson, Marcus G. Dill, John B. G. Mulligan, Edward M. O'Neill, Georgie B. Edwards, William C. Smales, Arthur H. Bond, Thomas C. C. Leslie, Thomas T. H. Robinson, Donald De C. O'Grady, Lawrence G. Gibson, and Philip S. Stewart.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 1st Middlesex: James Herbert Rhodes to be Surgeon-Lieutenant (dated July 2nd, 1906).

Rifle: 1st Volunteer Battalion the Royal Warwickshire Regiment: The undermentioned Surgeon-Lieutenants to be Surgeon-Captains:—G. H. E. Bekenn (dated July 28th, 1906) and C. Y. Flewitt (dated July 28th, 1906). 7th (Isle of Man) Volunteer Battalion the King's Liverpool Regiment: Surgeon-Lieutenant W. Richardson to be Surgeon-Captain (dated July 28th 1906). 1st (City of Dundee) Volunteer Battalion, the Black Watch (Royal Highlanders): Supernumerary Surgeon-Major D. Lennox (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, 34th Field Army Brigade) to be Surgeon-Lieutenant-Colonel, remaining Supernumerary (dated July 28th, 1906). 2nd Volunteer Battalion the Highland Light Infantry: David Westwood to be Surgeon-Lieutenant (dated July 28th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Captain A. H. Minton resigns his commission (dated July 28th, 1906)

SUBJECTS FOR EXAMINATION FOR PROMOTION.

The subjects for the examination of majors for promotion to the rank of lieutenant colonel for the year 1907, referred to in Paragraph 3 (*a*) and (*b*), Appendix VIII.B of the King's Regulations, will be as follows: Subject 3 (*a*).—The medical history of the more important campaigns and the lessons to be learnt therefrom; the medical history of the Afghan campaign, with especial reference to the march from Cabul to Candahar; and the medical history of the advance of Lord Roberts to Bloemfontein. Books recommended: "Diary (Medical) of the March of the Field Force of Lieut.-Gen. Sir F. Roberts, V.C., G.C.B., from Cabul to Candahar" (Army Medical Department Report for 1879); "Special Report on the Hospital Organisation, Sanitation, and Medical History of the Wars in Afghanistan, 1878–79–80" (Army Medical Department Report for 1880); "Forty-one Years in India," by Lord Roberts, V.C., &c., Chapters 59–62 (thirty-fifth edition, 1902, Vol. II.; "Report on the Medical Arrangements in the South African War," by Surg.-Gen. Sir W. D. Wilson, K.C.M.G., first 44 pages; and "*The Times* History of the War in South Africa, 1899–1900," Vol. III., Chapters 12–15 and Chapter 17. Subject 3 (*b*).—A knowledge of the Army Medical Services of the more important Powers: the medical organisation of the German and Austrian armies, as described in the "Handbook of the Medical Organisations of Foreign Armies, 1902."

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The following is the list of successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London, for which 69 candidates entered:—

Names.	Marks.
Gerald Hoey Stevenson	583
John Heatly Spencer	575
William Henry Forsyth	570
Alfred Herbert Heslop	564
Archibald Craig Amy	557
Wright Mitchell	548
James Archibald Bruce Sim	536
Edward John Elliot	522
Ernest Browning Lathbury	510
Frederick William Tough	508
Edward Gibbon	503
Cecil Scalfe	501·5
Robert Walter Dickson Leslie	497
Ernest Duncan Caddell	479·5
Michael Joseph Lochrin	475
Daniel Maurice Corbett	474
Benjamin Johnson	474
William Ernest Craven Lunn	468
John Rowland Foster	467
Arthur Hildebrand Jacob	464·5
Arthur Morris Benett	459
Francis Lyndon Bradish	458·5
George Philip Alexander Bracken	457
Owen Cunningham Preston Cooke	451
William Wallace Boyce	450
Carlisle Kelly	445·5
Clarence Hamul Denyer	441·5
Whiteford John Edward Bell	441
Duncan Coutts	439·5
William Francis Brenan Loughnan	434·5
Dennis Thomas McCarthy	434
Hector Lionel Howell	433
Charles William Bowle	431
John Joseph O'Keeffe	428
James Alexander Bennett	425·5
Thomas Walker Browne	424
William Irwin Thompson	421
Reginald Charles Galgey	419
Edward James Kavanagh	418
Ernest Cyril Phelan	415·5

INDIAN MEDICAL SERVICE EXAMINATION.

The following were the successful candidates at the examination for admission to the Indian Medical Service held on July 24th and four following days:—

J. Taylor.	S. Singh.
A. D. Stewart.	R. F. Hebbert.
C. H. Cross.	J. F. James.
R. A. Chambers.	J. Smalley.
R. H. Bott.	A. S. Leslie.
N. N. G. C. McVean.	C. M. Roberts.
J. Morison.	A. P. G. Lorimer.
S. G. S. Haughton.	W. M. Thomson.
F. W. Cragg.	H. B. Scott.
N. S. Simpson.	F. C. Fraser.

Forty-seven candidates (32 of whom had university qualifications and five who were Fellows of the Colleges of Surgeons) competed for the 20 vacancies.

THE BOYS' BRIGADE.

An appeal has been issued on behalf of the summer camps held under the auspices of the London Council of the Boys' Brigade. During the next few weeks nearly 3000 London boys will be going under canvas on the south and east coast. It is hardly necessary to dwell on the physical and disciplinary benefits of such a training as the camps provide. Contributions will be received by Mr. R. S. Peacock, London secretary, the Boys' Brigade, 34, Paternoster-row, E.C. Cheques should be crossed "Union of London and Smith's Bank."

MERTHYR TYDVIL HOSPITAL.—When Sir W. T. Lewis gave £1000 to the funds of the Merthyr General Hospital towards the cost of erecting two new wards for the institution the committee decided that as the workers at Dowlais, Plymouth, Cyfarthfa, and other collieries would derive most of the benefits they should be asked to increase their subscriptions. This was assented to on the condition that the medical staff should be increased. Additional medical men were appointed and the wards have been recently opened.

Correspondence.

"Audi alteram partem."

STREET AMBULANCES.

To the Editors of THE LANCET.

SIRS,—In view of a degree of discussion which has now been going on for some time past relative to "the ways and means" of providing an efficient ambulance service for the accidents and medical casualties which daily occur in the streets of London, it seems to me that legislation, whether Parliamentary or municipal as the case may be, would be facilitated if there was a generally expressed agreement on certain fundamental points which I will venture to summarise. The time is now past for wasting words or paper on side issues relating to when and by whom the various stages of street ambulance development were reached or took origin. It is sufficient to know that at many places in various countries efficient ambulance systems for the streets now exist under conditions which might with great advantage be still more generally imitated.

It should be remembered that this is not a question of "first aid" alone. For, thanks to the St. John Ambulance Association and its army, this teaching may be said, in its universal application and extension, to have rendered street ambulance transit possible in that full development and acceptation which is now, after an ample experience, demanded for the streets and public places of the metropolis. It seems to me that there is a general agreement on three primary points at least.

1. It is admitted by the most competent judges in a matter of this kind—viz., the hospital physicians and surgeons of London who see the patients on their admission to hospital—that there is great room for improvement in many instances in the mode of their conveyance alone; or to use Sir Cooper Perry's words as given in evidence "it is very painful to watch the arrival of accidents at hospitals under the present system."

2. That no ambulance system in the streets of London can be considered as approaching completeness that does not include rapid transit vehicles—horse or motor power—by means of which injured persons can be rapidly and carefully conveyed with, if necessary an accompanying "first aid" attendant, to the house or hospital, as the case may be. It should be stated incidentally that horse ambulances have been abundantly proved as successes, whereas the best that at present can be said for automobile vehicles is that they are still on trial with hopeful expectations.

3. That action should be taken with as little delay as possible. As time goes on the dangers of the street are considerably on the increase, *pari passu* with the development that is taking place in motor traffic of all kinds.

I do not think it can be doubted that if "the ways" are agreed upon "the means" will be forthcoming.

I am, Sirs, yours faithfully,

REGINALD HARRISON.

Lower Berkeley-street, July 26th, 1906.

A BLACK FOREST SANATORIUM FOR LADIES.

To the Editors of THE LANCET.

SIRS,—Of sanatoriums there is no end, yet interest always attaches to an institution which exhibits new features Dr. E. Rumpf, formerly of Dr. Turban's sanatorium in Davos and for many years director of the Baden State Sanatorium, has selected as the site of his institution a spot in the Black Forest half an hour from Baden-Baden and 600 feet above it. Ebersteinburg Sanatorium is solidly built of stone, the staircases and floors being also very solid with a view to lessening the conduction of sound and the danger of fire. The sanatorium proper is a single block separated from the economic department by the dining hall. It contains 40 bedrooms, each of which has its own white faience washstand with hot and cold water, and both here and throughout the building the aim has been to combine comfort and artistic effect with hygienic perfection. A bath is provided on every floor and a special douche room for water treatment. There are also a photographers' dark room, a haircutting room, and electric lifts, of which one is for food only. A good practical feature is a liegehalle capable of being closed on the south and opened on the north for summer use.

Dr. Rumpf's experience at various altitudes has led him to the conclusion that the *absolute* elevation is a matter of no importance in promoting the healing of diseased lung, but that a mountain site, or, in other words, a relative elevation above the surrounding country, constitutes a great advantage by reason of more bracing air, sunnier aspect, better shelter, and the opportunity for graduated hill-climbing, and whatever may be thought about the value of different climates there is no doubt that a hill site is exceedingly advantageous in numerous ways. Many English tourists are familiar with the beauties of the Black Forest in summer but it is less widely known that when a raw winter fog lords it in the lowlands there are often blue sky and a grateful temperature in the neighbouring hills—a change once experienced never forgotten. The walks around Ebersteinburg are very varied and the building itself commands a fine view of meadow, vale, and hill extending far across the Rhine to the Vosges. The special feature of the institution is that it is intended for a limited number of ladies only. Eligible cases are those with slight tuberculous affection of the lung and the so-called prophylactics, cases believed to have only a tendency to lung disease. The sanatorium is particularly suitable for young ladies who may with confidence be sent unattended. With the open-air treatment are combined hydrotherapy—in special forms as carbonated baths when required, massage, and electric treatment. Dr. Rumpf is one of those who have for many years used tuberculin and, like Dr. Turban, is a firm believer in its efficacy in certain cases. The fees are comparatively low—from £3 10*s.* a week upwards.

I am, Sirs, yours faithfully,

C. C. CHIDELL, M.B. Lond.,
late Medical Superintendent, London Open-air Sanatorium, Wokingham.

July 23rd, 1906.

CANCER AND X RAY TREATMENT.

To the Editors of THE LANCET.

SIRS,—It has been my lot during the past few months to listen to the pathetic tale of some sufferers from the above malady of their experience of several London surgeons of repute. Almost invariably it is the local practitioner who has sent the case to me on his own initiative. The latter's advice to his patient after operation and when there has been a recurrence is generally somewhat as follows: "I do not know much about the treatment of cancer by x rays but I will inquire and send you to some one who does." Surely this is the correct attitude to take in such a case. Several operating surgeons have stated when there has been a recurrence "nothing more can be done." Would it not be better if they used the same remark as the above-mentioned general practitioner? Other eminent surgeons have even gone further and have dogmatically stated that "the x rays can do no good in cancer," also stating that "the rays have been known to burn most severely so that the patient's life has been shortened thereby and their suffering greatly increased." This statement actually made to patients is open to grave doubt as to its accuracy. No report has ever been published of severe burning in a *cancer case*. It is a curious fact that I find these, to my mind, terrible assertions are mostly made by the older school of surgeons. Usually the younger the surgeon the more prone is he to a fair and open mind on any remedy that may be to the ultimate benefit of his patient. There is no doubt whatever that no patient can be said to have had done "all that could be done for him" if x ray treatment has been withheld. One operating surgeon wrote that "he had never seen a case in which the x rays had had any beneficial effect"; this sounds alarming but it would be interesting to know on how many cases of recurrent cancer his knowledge was based which had had efficient x ray treatment.

On most things medical and surgical it is best not to be too dogmatic, but surely during the past five years there have been a sufficiency of cases reported in which there have been alleviation of pain, disappearance of nodules, lumps, &c., and prolongation of life. Even at this date we know that our apparatus and methods are not perfect but they are almost daily improving; especially is this the case with technique, most probably the secret of success. However,

if only 1 per cent. of recurrent cancer cases obtained relief the above sweeping statements could not be justifiably uttered. X ray treatment at first suffered from three things—inexperience of its use in cancer, inefficient apparatus, and the treatment by laymen. All three have gradually disappeared. The treatment is now suffering mostly from the "conservatism" of our profession. Let us hope that in the future the medical man will permit to his patient every assistance that science can offer and the knowledge of others would lead them to recommend conscientiously.

I am, Sirs, yours faithfully,

Bedford-square, W.C., July 28th, 1906. CHISHOLM WILLIAMS.

DETERMINATION OF THE SEX BY ELECTRICAL INFLUENCES.

To the Editors of THE LANCET.

SIRS,—Do electrical conditions influence the determination of the sex? For some months past I have been making observations upon mice kept under certain electrical (?) conditions with the object of ascertaining the possible, if any, and what influence magneto-therapy or metallo therapy may exert upon the body at the period of fecundation.

I had constructed two metal cages, one of zinc and the other of copper. These cages were made and seamed together without the use of any solder, which would have consisted, if used upon this class of work, of equal parts of lead and tin and fluxed at the time of soldering with chloride of zinc, which is made by "killing" hydrochloric acid with zinc—i.e., placing cuttings of zinc in the acid until chemical action ceases. The cages, therefore, consisted of nothing but the respective metals mentioned. These cages were kept insulated upon pieces of glass and two mice—a male and a female—housed in each. The food was similar. In due course the young family arrived and as soon as possible were minutely examined and the effects noted with considerable interest. In the zinc-electro-negative or cathodic cage seven mice were born which were all males. Having obtained seven male mice in the cathodic cage I thought possibly the mice about to be born in the copper-electro-positive or anodic cage would be females. In due course mice, six in number, were born in the anodic cage but to my interested surprise these also were all males.

It necessarily occurs to me at this juncture that to produce male mice it may be essential to have a like electrical condition, whether anodic-electro-positive or cathodic-electro-negative, in both male and female.

In conclusion, I may add that further observations are being made. I am, Sirs, yours faithfully,

FREDK. WM. ALEXANDER.

Blackheath, S.E., July 24th, 1906.

STUTTERING.

To the Editors of THE LANCET.

SIRS,—Is there not a danger in the excessive elaboration of the (theoretical) treatment of this disorder? In practice, especially among youths, I have met with few cases yet which were not cured when the following advice was deliberately acted upon: (1) take a deep breath before each sentence; and then (2) speak slowly. The parents need to be impressed with the advice even more, perhaps, than the sufferers. I am, Sirs, yours faithfully,

London, July 23th, 1906. STANLEY B. ATKINSON.

TREATMENT OF DIPHTHERITIC PARALYSIS WITH ANTITOXIN.

To the Editors of THE LANCET.

SIRS,—The treatment of diphtheritic paralysis with antitoxin advocated by M. Comby, of which an account is given in THE LANCET of July 7th and 28th, deserves the fullest attention, emanating as it does from a physician of such eminence. May I be allowed, however, to assume the rôle of *advocatus diaboli* in bringing forward certain objections which will require refutation before a real value can be assigned to the treatment? At the meeting of the Société Médicale des Hôpitaux on June 15th M. Comby said: "Before employing the method which I advocate I had to deplore several deaths in late diphtheritic paralysis. Ever since I have employed it I have not had a single failure." Those familiar with late diphtheritic paralysis will learn with surprise that M. Comby had been so unfortunate previously to the adoption of his present treatment. Many years before the introduction of antitoxin it was recognised that late diphtheritic paralysis was, as a rule, benign. Thus Greenhow, writing in 1860, says: "The majority of cases which are protracted until the development of nervous sequelæ recover." Henoch's words are still more emphatic: "As gradual recovery very often takes place in the course of a few weeks without the aid of art we must not over-estimate the value of the different methods of treatment which are recommended."[1] Since 1894, when with the introduction of antitoxin more patients survived to suffer late paralysis, the benignity of the affection has been still more marked. Complete recovery has been the rule, death the exception. Chronic diphtheritic paralysis, of which Dr. Wilfred Harris has collected only seven cases,[2] is a very rare occurrence. Among 1000 consecutive cases that have been under my care in the course of the last four years there were 196 of late diphtheritic paralysis, the term "late" being applied to such cases as developed after the first fortnight of the disease. Of the 196, 48 were cases of generalised palsy; in the remainder the eyes or palate, either separately or in combination, were alone affected. All recovered except two, in whom death was due to paralysis of the diaphragm. This low mortality is to be attributed not so much to the treatment adopted nor to an extraordinary good fortune, though much is to be assigned to the zealous coöperation of the nurses, as to the essential benignity of the late affection.

I have elsewhere[3] reported cases illustrative of the tendency that late diphtheritic paralysis has to recover without special treatment owing to the abortive character and short duration of the majority of its forms. Even in severe cases, in which the muscles of deglutition and respiration have been involved, improvement both in the physical and mental condition is often relatively rapid when once the power to swallow has been regained. Any treatment employed at such a time, whether massage, electricity, drugs, or other methods, will as a rule be followed by, if it is not the cause of, the most gratifying results. One may therefore be pardoned for viewing with scepticism a method of treatment which seems to err in respect of *nimia diligentia medici*. M. Comby states that since he has employed his method he has not had a single failure. It must be confessed, however, that his personal stock of cases is, to say the least, somewhat meagre, being limited to nine. Mourniac in his thesis[4] written under M. Comby's auspices had collected 18 favourable cases, including five of the latter's. M. Comby quotes a paper that has appeared since by Chambon[5] in which out of five cases of diphtheritic paralysis treated by antitoxin four had recovered. From this it will be seen that the treatment is not invariably successful. Other failures were recorded by Sicard in the case of an adult at the same meeting of the Société Médicale des Hôpitaux and by Guinon in the case of a child at the Société de Pédiatrie on June 19th last, where M. Netter[6] had already stated that he had several times adopted the treatment of diphtheritic paralysis by serum, but had given it up, "n'en ayant pas obtenu de grands résultats." Further, if we take into account the natural reluctance in chronicling therapeutical failures, it is not improbable that there have been unrecorded cases in the practice of other observers where the injection of antitoxin in late diphtheritic paralysis has been unsuccessful. Enough has now been said to show that the treatment is of doubtful utility. It remains for me to show that it is not wholly innocuous. I have elsewhere[7] alluded to the disagreeable, sometimes alarming, results such as rigors, vomiting, and collapse, with the eruption of a very profuse and generalised urticaria that may occur within an hour of injection when antitoxin is administered in cases of relapse or a second attack of diphtheria, after it has already been given for the primary attack some weeks or months before. Even if the case has not been injected before the ordinary sequelæ of serum are

[1] Lectures on Children's Diseases, New Sydenham Society, 1859, vol. ii., p. 301.

[2] THE LANCET, July 23rd, 1904, p. 209.

[3] Practitioner, November and December, 1904.

[4] Du Traitement des Paralysies Diphtériques Tardives par les Injections de Serum Anti-diphtérique. Thèse de Paris, Février, 1905.

[5] Année Médicale de Caen, May, 1905.

[6] Archives Générales de Médecine, 1906, p. 1142.

[7] Practitioner, loc. cit., and May, 1905.

often distressing, especially in the case of adults. Though no fatal results have been recorded the occurrence of such accidents invites us to adopt a safer and pleasanter method of treatment. M. Comby states that it is only exceptionally that serum phenomena of any importance have to be deplored, but it must be remembered that the cases recorded are relatively few and there is always the possibility of the occurrence of such sequelæ. On reference to Mourniac's thesis it will be found that in five out of the 18 cases these serum phenomena were noted.

I am, Sirs, yours faithfully,

Grove Hospital, S.W., July 28th, 1906. J. D. ROLLESTON.

THE ELECTRO-CONDUCTIVITY OF BODY FLUIDS.

To the Editors of THE LANCET.

SIRS,—Dr. Dawson F. D. Turner's remarks on the electrical resistance of the blood and urine in THE LANCET of July 28th, p. 223, are of great interest, and the hope which he expresses that this method of research may come into extended use in the future deserves emphasis. There seems little doubt that electro conductivity measurements of body fluids may throw considerable light on their nature. I also think that in practice cryoscopy may also be supplanted by electro-conductivity measurement, even though the two methods depend on different things. As regards the determination of the functional efficiency of the kidney by this method I believe that the use of the "salt" and "water" tests introduced by Strauss is almost certain. The tests consist in this—that a single large dose of salt or water is given after a night's fast; the urine collected hourly and examined. In this case I find that the conductivity follows the same curve that the freezing-point depression has. The former may therefore do in place of a cryosopic determination.

It seems to me, however, that one or two points must not be lost sight of. One is that the electrical method does not give a reliable figure for the concentration of the electrolytes, whereas cryoscopy gives a definite figure for the total concentration. It is true that by combining with the conductivity-determination an estimation of the chlorides (Volhardt's method) one can deduce the concentration of the achloride electrolytes (in terms of NaCl) which does vary under different conditions. But it is not as satisfactory a deduction as can be desired. The second point is that the presence of colloids greatly influences the conductivity. Tangl and Bugarsky found that every gramme of albumin diminishes the conductivity of blood serum by 2·5 per cent.; not only this, but the albumin also diminishes the degree of dissociation of the serum electrolytes. It is for this reason that I think the electrical method fails in the case of the examination of the blood.

The last point is one of considerable importance. The expression of results as "specific resistance" in ohms is simple but has the great objection that the number only holds good when the electrodes and vessels used are of certain dimensions (which Dr. Turner gives). If one determines the capacity of the vessel and expresses the results as *equivalent conductivity* the size of electrodes and vessel, &c., ceases to matter. The figures obtained by any observer will then agree with those of any other. The minute electrodes described do not give as accurate results as large ones, which could well be employed if one were to use venesection blood. The electrical method has, in my experience without exception up to now, shown a difference between various kinds of body fluids such that it would be possible by this simple method alone to diagnose the source of a given fluid. I am, Sirs, yours faithfully,

OSKAR C. GRUNER.

Clinical Laboratory, Leeds General Infirmary, July 28th, 1906.

WHAT IS A SPECIALIST?

To the Editors of THE LANCET.

SIRS,—Are there not several ways in which "A. Z." could advertise his desire for special work without being "infamous." He might put a notice in his waiting-room that in future he will only see certain cases. He might send a circular letter to his regular patients. He might send a circular note to the other general practitioners in his district intimating that he was giving up general practice to take up a specialty and asking for their support. If he has any claim to special knowledge this last method would, no doubt, be successful. I am, Sirs, yours faithfully,

London, July 28th, 1906. J. W.

THE CHICAGO MEAT SCANDAL.

HOW THE POPULAR PRESS MAY PREVENT REFORM.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

THERE can be no doubt that the public is thoroughly roused on the general question of food-supply and on the special grievance in regard to the Chicago stockyards. On all sides, among all classes of the community, conversations constantly turn to these questions. This widespread interest may, if properly directed, produce very beneficent results, but there is great danger that the present indignation will wear itself out without achieving anything of a very durable and efficacious character. For many years efforts have been made to obtain better laws and more effective control over cattle and meat markets, slaughter-houses, and food-preserving establishments. The denunciations which inspectors have made annually of the insanitary condition of jam and other factories where animal or vegetable substances are preserved for food have past unnoticed by the general public. This year, however, these reports of the Government and municipal inspectors have been carefully scanned and the most sensational passages have been widely reproduced by the press at large. All this is excellent: it educates the public as to existing evils and prepares the way for future legislation. So long as the lay press contents itself with reproducing the reports of qualified official inspectors and of technicians nothing but good will result. Unfortunately the very popularity which the subject now enjoys has led a number of persons to rush into print though they know absolutely nothing about the technicalities at issue. As the general public is equally ignorant, it is not capable of distinguishing between those who write with technical knowledge and those who are unacquainted with what constitutes a properly constructed abattoir or effective meat inspection.

In the United States of America this is not the first time that the abominations prevalent at Chicago have been denounced. After the Spanish-American war there was a great "embalmed meat" scare and the Senate had to appoint a court of inquiry which issued a report of about 3000 pages. Here all the abominations of the Chicago stockyards were attacked hip and thigh. But the whole thing died down, though it was commonly believed, and said, that the American troops in Cuba had suffered more from the canned meat which they received from Chicago than from the bullets fired at them by the Spaniards. The fact that even in such circumstances the agitation could possibly have died down should be considered as a very grave warning. Care must be taken that the present outcry is not stifled in a similar manner. To effect this end the Chicago packers and other interested parties will encourage the present tendency to introduce non-technicians into the controversy. Appeals will be made to the daily political press to send their reporters and correspondents to view premises and to write reports thereon. These correspondents, though many of them very able men and admirable writers, have naturally no idea as to the nature of the defects which they should seek out. They will be impressed by an outward appearance of cleanliness and the tidy, perhaps coquettish, aspect of the young women employed to dress some of the meat and to fill some of the cans. As a result, there will be whitewashing accounts published of the Chicago stockyards and also of some British establishments, and thus it is hoped to lull the public once more into a sense of false security.

As a proof and demonstration of this very imminent and serious danger nothing could be more to the point than an article published in the London *Daily Chronicle* of July 27th last. First, there are three delightful cartoons by Mr. Tom Browne and then a paragraph giving a complimentary notice of the princely terms offered by the Chicago *Daily Tribune* to this British artist to draw for that paper. So far so good,

and everyone will join the *Daily Chronicle* in congratulating Mr. Tom Browne on his well-merited success as a black-and-white artist. But what has this to do with the technique of abattoirs and meat inspection? In what school of art are lessons given in the draining and ventilating of slaughter-houses? What artist is taught how to prepare tripe or to remove the viscera of a slaughtered animal without creating a nuisance? What knowledge have artists of the laws enacted in various countries for the regulation of abattoirs? What model abattoirs are they made to visit as a part of their education as artists? It is only necessary to put these questions to demonstrate the absurdity of the position. Yet in spite of this the *Daily Chronicle*, with attractive headlines, publishes an article entitled "Mr. Tom Browne's Impressions of the Chicago Packing House." This is no light skit serving to introduce some of those exquisite cartoons which Mr. Browne can draw with a master hand, but it is quite a serious article describing the stockyards and written as if Mr. Browne really thought he knew something about the subject. Of course, what he writes is in itself clear evidence that he does not understand the points at issue. But as the general public is equally ignorant this article can only produce a mischievous effect. As many other articles are likely to be written by people as unqualified for the purpose as Mr. Browne himself energetic protest must be made to prevent the public being lulled to sleep once more and the cause of reform thus defeated.

The following passage from Mr. Browne's article shows that he has no knowledge whatsoever as to how a slaughter-house should be built. It is worth quoting because it admirably depicts one of the most serious and fundamental defects of the Chicago stockyards but the author knows so little of the subject that he does not realise, and utterly fails to make his readers realise, that what he describes is an infringement of all sanitary laws that exist on the subject. Mr. Browne says:—

> What struck me most was the ingeniousness of the whole thing. The poor, deluded cattle, hogs or sheep, walked to their doom over some part of 20 miles of overhead runways, which crisscross above the stockyards proper and in and out of the packing houses like the streets of a town in mid-air. These aerial streets lead from the pens into which the cattle are unloaded from the trains on which they arrive direct to the killing floors of the various packing houses. The killing floors are always on the top storey, so that the packer may use the animal's legs to carry him to death and the force of gravitation to carry him when dead.

Now matters are not quite so bad as here depicted. According to the report of the investigating committee of the United States Department on Agriculture the killing in the Chicago abattoirs No. 94, No. 95, No. 96, and No. 198 is done not upstairs but on the ground floor. However imperfect these four abattoirs were, and one of them was especially bad, there was at least this about them that they were not upstairs. Thus the killing floors are not "always on the top storey," but it suffices that the great majority of the killing floors are on the top storey. Till this gross offence is done away with it will be of no use attempting to whitewash the Chicago stockyards. It is doubtful whether the sanitary authorities of any other country would allow such a thing to take place. Let all the plans and designs for model slaughter-houses be examined. Is it likely, is it possible, that anyone would have dared to propose the establishment of a killing floor on the top storey? How can the indispensable conditions of drainage, impermeability of floor and walls, the admission throughout of the direct rays of sunlight, and ample space and ventilation be secured upstairs? This is especially impossible at Chicago, where the buildings are not only lofty but so wide that daylight cannot reach the centre of them and the workers have to toil by artificial light both day and night. This is what Mr. Browne should have denounced but his ignorance of the technique of the subject is such that he praises "the ingeniousness of the whole thing." The official report to the United States Department of Agriculture says in regard to this very phase of the question and in confirmation of THE LANCET reports that—

> The process of slaughtering cattle and packing the product is carried on in Chicago on a colossal scale and it is true in many instances sanitary features, such as light and air, are sacrificed to increase the capacity of the plants.

Surely a popular paper like the *Daily Chronicle* should endeavour to promote and to uphold "sanitary features" rather than the capacities of the Beef Trust plants.

Mr. Browne also speaks of the "clever young girls in blue and white whose nimble fingers" packed the meat in cans. He says: "I can well imagine the sincerity with which Tommy Atkins lauds Fairbank corned beef on which he has been so largely fed for 25 years." This is a sentence well calculated to engender a sense of false security. How does its author explain away the blue-book report of the American Senate mentioned above? How does he account for the conduct of Tommy Atkins at Gibraltar who it has been publicly stated resigned himself to purchase his own dinner on the days when the garrison ration consisted of canned meat? Then Mr. Browne naïvely concludes this attempt to whitewash the Beef Trust by saying: "I came away wondering how it was that recent attacks could have been made on the packing industry if all the packing-houses were as clean and bright and sweet as the one I saw."

Is this the manner in which a matter of great public interest should be treated. Should a pronouncement be made after seeing only one show place? For how long have the nimble-fingered girls been neatly bedecked with blue or white caps and aprons? Have not the seinnovations been introduced in response to the present agitation against the stockyards which was started by THE LANCET reports published in January, 1905? "Young girls, all dressed alike in caps and gowns like housemaids, prepared the cooked meat on white tables and packed it snugly into tins for shipment to the four quarters of the earth," says the *Daily Chronicle* of July 27th, 1906. THE LANCET of Jan. 14th, 1905, said:—

> Close at hand there are closets and they are in some places only a few feet from the food. These closets are at times out of order, deficient, defective, or even entirely devoid of flushing. They are all the more offensive as they are not sufficiently numerous for the large staff of workers who have to use them. This is especially the case in one of the rooms where soup is made for preserving in tins. In one department there were two closets, neither of which could be flushed, provided for 80 women. Little or no thought has been taken as to the welfare of the workers. It was only after much agitation that the work was more evenly distributed by killing during four instead of two days. Then there used to be no provision whatsoever for the workers' meals, and they had to eat amid the filth in which they worked. Even to-day, and after many protests and agitations, there are no proper lavatories for the workers to wash themselves conveniently and to change some of their clothes before they begin handling the food which is sent from Chicago to all parts of the world. Indeed, it will be found that many of the workers hold the food they produce in wholesome abhorrence.

Mr. Browne, however, not having worked in the Chicago stockyards, and ignoring the technical aspects of the question, made quite a hearty meal of the food there produced. Thus the ordinary reader can easily be deceived. Smart young women are neatly dressed and set to work in a bright-looking place and on a spotless white table. It is all so nicely arranged that the guileless newspaper correspondent acquires quite an appetite and eats with relish the delicacies which, of course, are offered. In my time there was a smart young man who after taking visitors round the show places used to bring them to a buffet and endeavoured to inspire confidence by himself eating some of the samples. As it would have been ungracious systematically to refuse every one of the many things proffered I got out of the difficulty by accepting an olive, for I knew that it could not possibly have been grown in the stockyards. But surely the interests of the public at large, the necessity of preventing the manufacture of unwholesome or contaminated food, and of protecting the workers engaged in preparing such food from insanitary surroundings, are matters of sufficiently serious import to command the active coöperation of the political press. The public, however ignorant of the technical questions at issue, must ultimately decide. Without public approval the necessary laws, even if carried, would not be effectively applied. Much has to be done in England and with the aid of the Chicago scare much will ultimately be achieved. But the good effect already produced must not be marred and destroyed by the publication in popular papers like the *Daily Chronicle* of misleading articles written not by a veterinary surgeon, a sanitary engineer, a medical officer of health, or a simple inspector of nuisances, but, of all people in the world, by a well-known and highly distinguished artist in black and white. By all means let us have as many cartoons of Chicago and even of Chicago stockyard life as Mr. Browne can draw. They are sure to be artistic and amusing and I would gladly join in the chorus to render homage to his talent and his genius as an artist. On the other hand, and for the sake of the health and the lives of countless millions of people in various parts of the world I would appeal to him personally and to the political press at large to leave the work of sanitary reform to those who know something about sanitation.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Conferring Medical Degrees.

THE ceremony in connexion with the conferring of medical degrees by the University of Manchester took place in the Whitworth Hall on July 28th. The Vice-Chancellor, Mr. Alfred Hopkinson, presided and was supported by Professor W. Stirling, dean of the Faculty of Medicine, Professor H. B. Dixon, Professor Boyd Dawkins, and other members of the University staff. Dr. Emil Fischer, professor of chemistry in the University of Berlin, was also present, and in the course of the proceedings received the honorary degree of D.Sc. Before this ceremony took place the Vice-Chancellor alluded to the fact that it was just 60 years ago that day that the death of John Owens, the founder of the Owens College, took place. Looking back over the experiences of those 60 years, if they had to draw up the provisions of his will they would, he thought, in the light of those experiences "draft them word for word as he had done." He said also that not only was John Owens the founder of the Owens College, but "since they had been modelled on his plans, of also all those other universities and colleges that had since grown up in the great towns of the kingdom." This is a remarkable tribute to the wisdom and foresight of the founder. In speaking of the Medical School Mr. Hopkinson alluded to the never-ending contention between the practical and scientific branches as to the disposal of time during the five years of study and said that some new arrangements had been made. He mentioned the work of the University Press in printing the record of the work done in the public health laboratories which was likely to be of great benefit to the health of the community and spoke of the laborious and valuable work done by Professor J. Lorrain Smith in cataloguing the specimens in the pathological museum.

Bathing Dangers.

The distressing occurrence at St. Anne's-on-Sea that took place on July 25th, where two school-girls were drowned and the lives of many more were imperilled, is a disaster the like of which is repeated year after year on different parts of our coasts. Some 20 of the High School girls were bathing on a rising tide. The coast is one of sand-banks and channels, shifting and treacherous, where what was safe a few minutes ago may in a few more be out of one's depth. At the inquest on July 26th instances were given where some of the girls who could swim showed much courage and resource and two gentlemen were able to bring six or seven girls to shore. A fisherman also brought a boat and rescued some of the girls. He said in evidence that the place where the bathers were was not safe unless they were very good swimmers or there was a boat there; also that the boatman ought to be a good swimmer. The verdict was that the two girls were accidentally drowned. The question of responsibility is a difficult one but it seems a wilful running into danger for 20 girls to bathe without having a boat at hand. This was referred to by the coroner who said it was a custom in the south to have a boat near a bathing place. At St. Anne's-on-Sea, it appears, notices were posted warning people against the danger of wandering on the sands at low water and the clerk to the urban council recognised that the beach was unsafe for bathing. These notices were apparently all on the south side of the pier, while north of it where the beach is still more dangerous the clerk thought that probably there were no notices. One of the two girls who were drowned lost her life, it was said, in endeavouring to save some of the children. People will incur risks on their own responsibility and it is impossible to prevent occasional accidents, but the time has surely come when there should be more systematic arrangements to prevent the loss of life that the bathing season always brings with it. It would be much better to have two men in the boat rather than one.

Objection to Hospital Treatment.

A case occurred the other day at Ashton-under-Lyne illustrating the strong feeling that exists among a section of the labouring classes against treatment in hospitals. The sanitary inspector heard that two children had small-pox and that the father was determined they should not be taken to the small-pox hospital. He then found that each evening the children were taken from home and housed in a shed on Ashton Moss. In this desolate-looking spot, accompanied by the Ashton inspector, he found the shed where the children were lying on a quantity of rags. One of them was in an advanced stage of the disease but both were able to show their objection to the proceeding by trying to escape. The father is to be prosecuted for exposing the children. Four fresh cases of small-pox have been reported from Oldham.

The Lock Hospital.

Like most other hospitals the Manchester and Salford Lock Hospital is suffering from lack of funds. Its activity and usefulness are therefore to some extent crippled. There is no accommodation for male in-patients. During the last two years the in-patients, all females, had been 244 and 204 and they had been sent back to their homes or to charitable institutions or to situations found for them as domestic servants. The committee again draws attention to "the special claims of the hospital on all who are solicitous for the physical and moral welfare of the community." Mr. J. Bently Mann mentioned one matter which no doubt tells specially against these hospitals. People avoid, naturally enough, having their names in any way associated with unsavoury subjects and, as Mr. Mann said, they seemed shy of giving their time and help to the institution and the hospital was handicapped in its work. The extension of the hospital is, unfortunately, much needed and improvements might be made in the existing premises. They have the land for the extension but not the money.

Prestwich Union Infirmary.

The Prestwich board of guardians has a large piece of work on hand. It is building a new workhouse infirmary at a cost, exclusive of the site and the furnishing, of £71,000. The site comprises about 33 acres and is near the Boggart Hole Clough, known to fame as the scene of the adventures of Mr. Keir Hardie and his "suffragettes." There is a central administrative block, to the east of which are the women's wards, while those for men are on the west side. Each group of wards consists of three two-storeyed pavilions and convenient day rooms. On the women's side is a small maternity ward and an isolation building is placed away on the northern side behind the administrative block. There will be about 800 beds. In addition to this there will be a home for 28 nurses and six probationers at the extreme western end of the buildings.

Death of Dr. R. T. Parkinson.

Dr. Richard T. Parkinson of Oxford-road died with tragic suddenness on the evening of July 21st. He was called to see a patient and on entering her room asked her a question, but before she could reply he fell dead at her feet. At the inquest Dr. George Ashton certified that death was due to heart failure. Dr. Parkinson will be much regretted.

July 31st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The New Cardiff Asylum.

THE Cardiff corporation has elected as the first medical superintendent of the new city asylum which is now approaching completion Dr. Edwin Goodall, F.R.C.P. Lond., who since 1893 has been superintendent of the Joint Counties Asylum at Carmarthen. The salary attached to the post is £650 per annum, with annual increases of £50 for three years. The selection committee did not in the first instance include Dr. Goodall in the list of candidates sent to the city council for final election and its action was adversely criticised among the medical profession locally. The meeting of the council at which the election was to take place was accordingly adjourned in order that Dr. Goodall and one other candidate might be included amongst those from whom the election was to be made. It is to be regretted that the final decision of the council indicated above has resulted in the resignation of the chairman of the asylum committee. Dr. Goodall was born in Calcutta and is able to speak not only Welsh but several foreign languages, accomplishments which will be of especial value in the Cardiff institution where there will be an exceptionally large number of patients of foreign nationality. A few years ago it was stated that during a period of five years there were 96 foreign lunatics chargeable to Cardiff, while during the same period there were only seven chargeable to Hull, four to Newcastle-upon-Tyne, and two to Bristol.

Carmarthen Joint Asylum.

For many years past the councils of Carmarthenshire, Pembrokeshire, and Cardiganshire have been unable to come to any agreement as to the proportions to be paid with respect to capital expenditure at the joint asylum at Carmarthen. The interests of patients have in consequence suffered so that it is not at all surprising to find the Commissioners in Lunacy characterising the apparent indifference of the councils as discreditable. Among the most urgent requirements of the asylum are an improved sewerage scheme and increased accommodation for patients. When the Commissioners last visited the institution there were 46 more male and seven more female patients than there was accommodation for, with the result that some beds had to be made up on the floors.

Society of Medical Officers of Health.

Dr. J. D. Jenkins, medical officer of health of the Rhondda urban district, has been elected President of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health.

The Water-supplies of Breconshire.

At a meeting of the Breconshire county council held on July 27th it was resolved that the Parliamentary committee should consider what steps could be taken to prepare further evidence as to the water-supplies within the county for the different villages and should confer with the district councils, so as to be prepared to meet any Bills promoted by authorities outside the county to abstract water from within the county.

Difficulties of Medical Officers of Health.

At a meeting of the Northam (Devon) urban district council held on July 26th it was proposed that Dr. E. J. Toye should be re-elected medical officer of health. One of the members suggested that the appointment should be advertised, as he considered that the medical officer's reports were "too strict," and this was very detrimental to the inhabitants of the town; he also said that in 1903 there were five or seven cases of small pox in a certain fashionable watering-place, but nothing much was heard about them, whilst in Northam everything was reported. Another member explained to the speaker that the medical officer of health had his instructions from the Local Government Board and that he could not be too strict. Eventually Dr. Toye was re-appointed and the amendment for "throwing open" the appointment was not seconded.

Chipping Sodbury Rural District Council.

At a meeting of the Chipping Sodbury (Gloucestershire) rural district council held on July 25th a communication was read from the Local Government Board stating that the provisional order combining the Chipping Sodbury rural district with others for the appointment of a medical officer of health had been confirmed by Parliament.

July 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Graduation Ceremonial at the University of Edinburgh.

ON July 27th the summer graduation ceremonial of the University of Edinburgh was held in the McEwan Hall which was densely crowded in every part. Principal Sir William Turner, Vice-Chancellor of the University, presided. The honorary degree of LL.D. was conferred upon Sir Donald Currie, G.C.M.G., Emeritus Professor Sir Alexander Russell Simpson, H.E. Senhor Antonio Da Veiga Beircão of Lisbon, and H.E. Baron Descamps, D.C.L., Belgium. The two latter had the degree conferred *in absentiâ*. In introducing Sir A. R. Simpson, the Dean of the Faculty of Law, Sir Ludovic Grant, mentioned that it was just 50 years since Sir A. R. Simpson had graduated in medicine in the University. The degree bestowed upon him in 1856 marked the successful termination of his labours as a student; the degree which he was now to receive betokened his *alma mater's* cordial and grateful appreciation of the great services which he had rendered during his long tenure of his professorship. The great traditions of his office had suffered nothing during his incumbency and Sir Ludovic Grant gladly echoed the encomium pronounced in that hall a year ago by the representatives of the students. While Sir A. R. Simpson's manual dexterity and inventive genius set him in the very forefront of operative gynæcologists, his extensive knowledge of the literature of his department, continental as well as British, enabled him to place his teaching on a strictly scientific basis and thus to exercise a most invigorating influence on those brought under him. The senators warmly congratulated their late colleague on the honour which he had recently received from the Sovereign. Sir A. R. Simpson was received before and after being capped by a great outburst of applause. After the honorary degrees had been conferred the degree of Doctor of Medicine was conferred upon 89 Bachelors of Medicine; two Bachelors of Science had the degree of Doctor of Science conferred upon them, while the degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on 145 gentlemen who had successfully completed the medical curriculum. The Diploma in Tropical Medicine and Hygiene was conferred on two graduates and the special University certificate in diseases of tropical climates on 52 graduates. Six gold medals were awarded for M.D. theses. Alexander Murray Drennan, M.B., Ch.B., was Ettles scholar for the year. Professor T. Annandale, for the third time during his occupancy of the chair of clinical surgery, delivered the customary address to the graduates. He took for his theme, "Quackery, otherwise Humbug." The address was interesting and racy but it was not well heard.

Cerebro-spinal Meningitis, a Notifiable Disease.

At a meeting of the corporation of Glasgow last week it was unanimously resolved that cerebro-spinal meningitis should be included as a notifiable disease under the Infectious Disease (Notification) Act. In proposing the motion the convener of the public health committee mentioned that the first case of cerebro-spinal meningitis occurring in the city was taken into hospital on March 10th. Since that date there had been 69 cases admitted to hospital and 48 of the 69 cases had died, showing that this was a very serious and fatal disease. In addition to the deaths in hospital they had notice of 12 deaths that had taken place at home. In 28 cases the specific micro-organism was isolated from the discharge of the nose, throat, and eye or from the fluid obtained on tapping the spinal meninges. Several cases had been discovered in one family and one peculiarity of the disease was that in the bulk of the cases those who had died were under ten years of age. There had been practically no cases in persons over the age of 20 years. The cases had principally occurred in the Eastern and Northern wards of the city but there had been a few on the south side of the river. It was agreed that notification of the disease should remain compulsory until July 31st, 1907, and at that date, if necessary, an extension might be asked for.

Post-Graduate Classes at Glasgow Royal Infirmary.

The opening lecture will be delivered by Major George Lamb, I.M.S., on the Etiology of Plague, on Tuesday, Sept. 4th, at 3.30 P.M. Thereafter several courses of lectures have been arranged to take place during the month of September. Dr. A. Maitland Ramsay will give demonstrations on Diseases and Injuries of the Eye, Dr. David Newman on Surgical Diseases of the Kidneys and Bladder, Dr. John Barlow, Dr. A. N. McGregor, and Mr. H. Rutherfurd on Clinical Surgery, Dr. J. Lindsay Steven and Dr. T. K. Monro on Clinical Medicine, Dr. J. Kerr Love on Diseases of the Ear, Dr. Robert Fullerton on Diseases of the Throat and Nose, Dr. W. K. Hunter on Hæmatology, Dr. G. Balfour Marshall on Gynæcology, Dr. Charles Workman on Practical Pathology, and Mr. David McCrorie on Bacteriology. The opening lecture is free. The fee for attendance on the courses of gynæcology and practical pathology is £2 2*s.* and for bacteriology £3 3*s.* For each of the other courses the fee is £1 1*s.* and for any three of them £2 2*s.* It will facilitate arrangements if those desirous of joining any of these classes will communicate at once with Dr. J. M. Thom, superintendent, from whom a syllabus may be obtained.

Testimonial to Mr. J. Stuart Nairne.

Mr. J. Stuart Nairne, who has been intimately associated with the Glasgow Samaritan Hospital since its foundation, was, at a meeting of representative citizens held in the hospital recently, presented with a testimonial in recognition of his services to the hospital during the past 21 years.

July 31st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

THE Senate of the Royal University met on Friday, July 27th. His Majesty's Warrant under the Royal Sign-Manual was read appointing Lord Castletown of Upper Ossary to be Chancellor of the University; also His Majesty's Warrant under the Royal Sign-Manual amending the statutes of the University. A statute dealing with academic disorder was enacted.

Royal Commission on Trinity College.

The Royal Commission of inquiry into the affairs of the University of Dublin will not begin to receive evidence until October. In the meanwhile the Roman Catholic Archbishop of Dublin has permitted his opinion to appear in connexion with what is generally considered the most important subject of the inquiry—viz., the adoption of a means by which the University may be made acceptable to a much larger number of Catholic students. The *Irish Times* of July 31st contains a letter in which the Archbishop states: "Events have moved rapidly of late in the direction of the settlement which I have always favoured—i.e., letting T.C.D. alone and setting up in the University of Dublin a second College That is a plan which can be worked out with perfect safety and perfect justice to every interest involved." This pronouncement will prove of much interest to those who have followed the many attempts which have been made of late years to solve the problem of University education in Ireland.

The Salaries of Dispensary Medical Officers.

An important statement appears in the report of the Irish Local Government Board for 1905-06 in respect of the salaries of dispensary medical officers. This vexed question, which has frequently been dealt with at length in previous reports of the Local Government Board, would appear to be on the fair way to settlement. In a previous report of the Board attention was drawn to the fact that nine boards of guardians, acting upon the suggestion made in the circular letter from the Local Government Board on August 9th, 1904, had framed and submitted for sanction scales of salaries applicable to the cases of their medical officers. This example seems to have had its effect, for the Board now reports that in 26 unions improved rates of remuneration for the medical staff are in operation. The claims of dispensary medical officers for increased remuneration are, in fact, at last receiving sympathetic consideration from boards of guardians in various parts of the country, while it is officially announced that in any case where it is deemed advisable to elicit further facts the Board is prepared to instruct a medical inspector to hold a public inquiry so as to assist the guardians in arriving at a decision.

Inspection of Pork in Belfast.

The meat inspectors of the city corporation of Belfast since the Chicago revelations have shown greater activity in the seizure of tuberculous pork and a deputation representing the wholesale Belfast provision trade has now waited on the market committee of the city council in reference to the matter, in order to raise two points. The first, which was not discussed, referred to the alleged unfairness of the methods of inspection, as at present carried out, towards the inhabitants of Belfast compared with the inhabitants of the country districts. The second point opened the question as to whether it is desirable to destroy a carcass in which there are only local signs of tuberculosis. The following motion was adopted at a meeting of the market committee on July 28th, Councillor Dr. H. O'Neill, J.P., dissenting:—

> That in all well-nourished carcasses of pigs where the tuberculosis is strictly confined to the glands of the neck, the head only or such portion as is affected by the disease shall be destroyed, the remainder of the carcass being handed back to the owner; and that in the case of all carcasses showing unmistakeable evidence of the disease having become generalised—i.e., two or more organs affected—the whole of every such carcass shall be destroyed.

As indicating that there is a difference of practice followed in various municipalities it was reported that in Glasgow the recommendations of the Royal Commission on Tuberculosis are given effect to except in those cases where the disease is found affecting only the lymphatic glands of the throat and also in those cases where the disease is localised to the internal organs, in which cases the affected parts only are destroyed. In Liverpool (1) an examination of the carcasses and organs is made at the slaughter-houses; (2) the carcass and the whole of the organs are destroyed when any trace of tuberculosis appears, in accordance with the recommendations of the Royal Commission on Tuberculosis; and (3) diseased carcasses are destroyed by means of sulphuric acid and steam pressure, the residue being used for manure. In Edinburgh (1) the carcass and organs of each animal are examined and the glands are incised by a veterinary inspector appointed by the city on duty at the slaughter houses; (2) the whole carcass is condemned in cases of tuberculosis generally; and (3) the condemned carcasses are boiled in a special cauldron for 24 hours and thereafter the fat is sold for wagon grease, the bones for manure, and the flesh destroyed. In Dublin (1) all carcasses are inspected at the public abattoir and at the private slaughter-houses; (2) in cases of tuberculosis generally the whole carcass is condemned but if very slightly affected only the diseased parts are cut away; and (3) the condemned carcasses are saturated with petroleum and boiled down at the knacker's yard.

The Hospital for Diseases of the Skin, Belfast.

At the annual meeting held on July 28th it was reported that 652 patients were treated during the past year, of whom 31 were admitted as intern patients. The balance to the credit of the institution was £318 6s 10*d*. Special reference was made to the loss sustained by the institution by the death of its originator, president, and honorary consultant, Dr. H. S. Purdon. Of late years Dr. Purdon did not take the active part in the medical work of the institution that he formerly did, but he was always available for consultation. A subcommittee was appointed to look after certain alterations necessary in the hospital building.

July 31st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Civil Responsibility and Syphilitic Infection.

AT a meeting of the Society of Legal Medicine held on July 9th M. Thibierge read a most interesting paper on the above subject. He said that in cases of sexual infection actions are very rarely brought, for legal proof is extremely difficult to obtain. Cases of infection through employment arise almost exclusively among glass-blowers. A recent judgment of the Court of Cassation has brought such cases under the Workmen's Compensation Act, although formerly they were considered to come under another Act. Under the present Act it is found to be very difficult to assess the damages and the sufferers found redress more easy to obtain under the former Act. Finally, there are the cases of wet nurses who contract syphilis to be considered. A nurse who contracts syphilis in this way can only obtain damages by furnishing proof that the persons who confided the child to her care were imprudent or negligent and also that they knew the possibility of the child being syphilitic. So in two recent cases the parents of the children were not cast in damages for they were able to show that they had no reason to suspect that they themselves were syphilitic and they called expert opinion to witness that no trace of syphilis was to be found in them. And yet in both cases the children were obviously suffering from hereditary syphilis. Such decisions are no doubt correct law but they are not humane, and some way ought to be found by which the problems should be solved in a way which does greater justice to the sufferers than does the present law.

The Surgery of Wounds of the Heart.

At a meeting of the Surgical Society held on July 11th M. Rochard gave an account of three cases of wound of the heart. Two of the cases had been under the care of M. Camus and the third under that of M. Lenormant. In all three cases the wound was situated in the right ventricle. The sutures used in the two first cases were of catgut and of silk in the third. The first patient operated upon died 22 hours later; the second patient died on the table just as M. Camus tightened up the last suture. The third patient was apparently dead at the end of the operation but upon cardiac massage being employed he revived and survived for five hours. At the post-mortem examination there were found, in addition to the wound of the heart, injuries to the liver, the stomach, and the intestines. That a patient suffering from such injuries should have revived shows the

great importance of direct massage of the heart. In this case the heart soon began to beat and respiration was quickly re-established. Direct massage of the heart should therefore take its rightful place among the auxiliary means of restoration at the disposal of the surgeon not merely in operations on the heart but also in cases of cardiac syncope when the patient is under chloroform.

Secondary Deformities in Cases of Fracture of the Leg after Reduction.

At the same meeting of the same society M. Routier read a paper on the case of a man who had been under his care for a Pott's fracture (*sus-malléolaire*). Reduction was easy and the limb was put up in plaster for three weeks, at the end of which time the plaster was removed and massage was employed. The patient was told to try to walk. Just before he left the hospital the foot was noticed to be again in a condition of valgus and the fracture had to be reduced a second time under an anæsthetic. It was then discovered that the patient had slipped while going down a staircase but that he had said nothing to anyone about the accident. M. Routier raised the point that it was possible that something of this kind had happened in sundry cases where medical men have been cited to appear before the courts for improper treatment.

A Needle Found in the Heart.

At a meeting of the Hospitals Medical Society held on July 19th M. Louis Renon and M. Tixier showed the heart of a morphinomaniac in the auriculo-ventricular septum of which a needle was stuck. There were besides other cardiac lesions of different dates. The oldest was hæmorrhagic pericarditis in which the exudation was organised and there was also an ulcerative endocarditis of more recent date. M. Renon and M. Tixier, basing their opinion upon the general findings of the post-mortem examination and upon microscopical examination of portions of the different organisms, dated the chronology of the case as follows. First, hæmorrhagic pericarditis contemporary with the migration of the needle; next, a septicæmia starting from a very septic wound of the little toe; and, finally, malignant endocarditis limited to the right heart and chiefly situated in the auricle—that is to say, at the point of implantation of the foreign body. The primary cause of death was the presence of micro-organisms in the blood but the needle was an accessory cause by affording a nidus for the micro-organisms by reason of the incessant irritation of the endocardium which it kept up. The case was a clinical example of those instances of experimental malignant endocarditis which are produced by the injection of micro-organisms after valvular injuries have been previously brought about.

Gunshot Wound of the Common Carotid Artery and the Internal Jugular Vein.

M. Picqué related the following interesting case at a meeting of the Surgical Society held on July 25th. The patient was a girl, aged 19 years, who half an hour before her admittance to hospital had been shot with a revolver on the left side of the neck. The symptoms present were those which would follow from a wound of the large cervical vessels and so an incision was made as if to tie the common carotid artery. Much blood-clot was turned out of the wound and profuse hæmorrhage followed which came from the common carotid artery. This vessel had been completely divided and on the anterior face of the internal jugular vein there was a perforation. The divided artery was ligatured and the orifice in the vein was sutured. The patient's condition was exceedingly grave and recourse was had to intravenous injections of artificial serum. Two hours after the operation the patient was hemiplegic on the right side. 15 days later the hemiplegia had almost completely disappeared and sensation on the affected side began to return. At the date of M. Picqué's reading of his paper the patient had almost recovered her normal powers of movement.

July 31st.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

A New Hospital for Mecca: the Improvement of the Water-supply.

THE Ottoman Government is said to be considering seriously several plans with the view of improving the sanitary conditions of Mecca. It is intended, to begin with, to build a hospital with 300 beds, while the existing dispensary will be supplied with the necessary drugs for gratuitous distribution. It is also intended to erect large lodging-houses for the pilgrims of the poorer sort who, of course, flock in great numbers from every part of the globe to the sacred centre and who are often obliged to spend the nights under the open sky. The reservoirs of water in Mecca are exposed to every sort of contamination and pollution. These will be covered in and the street fountains are to be increased in number considerably. Several other charitable and sanitary institutions will be erected and endowed. The most important plan, however, under consideration is the proposed thorough improvement of the water canalisation of Aini-Zubeid which supplies the sacred city with drinkable water. The works are to be executed under the supervision of a special commission presided over by the Governor-General of the Hedjas province and will be directed by two engineers sent from Constantinople. The Sultan has already offered from his private purse the sum of 2000 Turkish liras to defray the initial expenses and it has been decided to open a list of subscriptions and to invite the Mussulman population to contribute, while the revenues of the ministry of the so-called Evkaf (religious institutions) will be drawn upon should the expenses exceed the contributions. All this so far is a scheme but I have no reason to believe that attempts will not be made to realise it.

Measures against Bovine Tuberculosis.

Many of the cattle imported to Turkey come either from Russia or from Bulgaria and it has been found that a number of the animals suffer from tuberculosis. It has been therefore decided by the Commission of Public Hygiene, which body holds its meetings twice a week in the prefecture of the city, to take precautions in order to prevent further importation of diseased cattle. All the imported cows will be subjected to strict examination, the stables will be carefully inspected at regular intervals, and other measures tending effectively to protect public health are promised.

The Practice of Bleeding.

There still exists here, especially among the lower classes of the population, an unshaken belief in the great efficacy of bleeding. Quacks practise the system of bleeding to a dangerous degree. There is no disease, however slight or however intense, in which these individuals do not exhibit the greatest readiness to have recourse to the methods of Dr. Sangrado, while the patients, believing in the treatment, will often bleed themselves at most inopportune times and in most unskilful manner. Not only does the uneducated Turk believe that bleeding is good for his present maladies but he thinks that its influence extends also to future ailments; thus he will bleed himself either by means of a razor or by the application of leeches when feeling perfectly healthy. The best time for that operative measure is considered to be the month of May, showing that "the spring blood-let" still retains here its ancient popularity. In May large crowds will flock to so-called specialists in phlebotomy, who perform the operation in a most reckless manner with all sorts of sharp instruments. Deaths have occurred under the treatment, while infectious diseases must often be conveyed from victim to victim as the charlatan's weapons are always dirty and are never disinfected. The Turkish newspapers of the metropolis have drawn the attention of the authorities to the matter.

Gratuitous Obstetric Assistance.

The administration of the Imperial Medical School of Constantinople has invited the municipality to consider the advisability of attaching to every district of the capital a qualified medical accoucheur with the duty of gratuitously attending upon poor women *en couches*. This charitable proceeding, I understand, is to be instituted by the municipality, which will thus offer a benevolent service to the poorer classes who are recklessly exploited by ignorant and unqualified midwives. I learn also that it has been decided that the sanitary inspectors of the metropolis shall take a course of lectures on obstetrics in the medical school in order to be able to give assistance if necessary.

An Armenian Hospital.

The Armenian Patriarch of Coum-Capou has received the necessary authorisation to build a hospital.

July 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Expert Testimony in Cases of Alleged Insanity.

THE value of expert testimony in cases of alleged insanity has become a subject of public interest in New York owing to the release of a patient from the "Asylum for Insane Criminals," on his confession of murder, and his subsequent commitment to prison on an acknowledgment that he had feigned insanity on his examination by experts at his trial. The medical examiners were two of the leading authorities on insanity in this city and the methods pursued by the criminal seem to have deceived them. The interest has been greatly intensified by the recent murder of an eminent architect by a wealthy young man and the intention of the lawyers engaged in his defence to summon a large number of medical experts to secure his acquittal on the ground of insanity. Interest is also added to the discussion by an incident in a recent trial for murder during which one of the most prominent medical experts changed his opinion as to the sanity of the criminal, appearing, in fact, first upon the side of the prosecution and subsequently on the part of the defence in the same case. Various methods have been proposed to remedy the evil and that which receives most favour is the creation of a State board of experts, under rules and regulations established by the State. It is contended that such a State board would be carefully selected as to its membership and if the compensation was fixed by public authority and paid out of the public treasury impartiality would be secured.

A Movement against Contract Practice.

"Contract practice," or the contract of a physician with a corporation to attend employees professionally at a given annual salary, has become a subject of increasing interest in professional circles. The Cincinnati Academy of Medicine appointed a committee to investigate the matter and report its conclusions. The result was a condemnation of the system as at present conducted. The Academy then formulated the conditions which should govern the acceptance of such contracts as follows: "If any physician or surgeon ... is employed ... at a fixed compensation for a specified length of time he shall serve only in an advisory capacity and shall not render medical or surgical attention to any member, employees of such person, company, corporation, or society, or inmate of institution, without extra compensation, to be estimated on a fee system of charges; surgical work for employers' liability insurance companies and all forms of medical and surgical work for societies, lodges, fraternal organisations, and medical benefit societies is considered unethical, unless separate charges are made for each case, visit, or operation, and the fee must not be less than the minimum fee usually charged for such work."

Improved Methods of Teaching in the Harvard Medical College.

The Harvard Medical College has always been our most progressive school in the adoption of the most approved methods of teaching. Half a century ago it made its first departure from the custom of the other colleges by lengthening its term of study. It was then predicted that it would lose its students, as these already regarded a two years' course as too long. But these predictions failed, for though the numbers in attendance slightly diminished during the first years the final result was a large increase of its classes. Recently the desire of many members of the faculty to have the newer methods of teaching represented in the governing body has resulted in the appointment of 11 instructors in the school as members of the faculty for three-year terms. Though most of these instructors have been on the teaching staff of the school for many years, not being members of the faculty they have had no voice in the management. Ordinarily an instructor or teacher must reach the grade of at least associated professor or demonstrator of anatomy before he has a voice in the school government. The new system of intensive education was begun in Harvard in 1899 and it has been the aim of the faculty to secure men who are in sympathy with this system and who are familiar with its practical workings.

The Army Medical School at Washington.

The great advantage of this school in the preparation of students for service in the Army Medical Department is becoming every year more evident. It has been impossible to keep the army medical staff supplied with qualified surgeons and reliance had to be placed on volunteer surgeons having the rank of acting assistant surgeons. At the recent commencement of the Army Medical School 11 of the 13 graduates were found qualified, both physically and professionally, for commissions as assistant surgeons and these findings were approved by the surgeon general of the army. There are now but 18 vacancies in the grade of assistant surgeon in the medical department of the army.

Medical Education in California.

The University of California has decided to transfer from San Francisco to Berkeley all instruction in the first two years of the College of Medicine. Students desiring admission to the Medical Department must have completed certain studies in physics, chemistry, zoology, German, and French, which ordinarily require two years of residence at a university. The first two years of strictly professional work are devoted to anatomy, physiology, and pathology, and it is believed by the faculty that training in these may best be received at the seat of the University, Berkeley, where the opportunities of laboratories and libraries in allied subjects are immediately available. The work of the last two years of the medical course—the clinical years—will be carried on in San Francisco in the affiliated college buildings.

A Costly Hospital for Tuberculous Patients.

The public authorities of New York have appropriated $2,000,000 for the construction of a hospital to accommodate 800 patients. The site selected is on Staten Island and is well adapted to secure fresh air and sunlight. The plans of the hospital, however, are made along the lines of the ordinary city hospitals and the whole structure is elaborated on the most expensive scale. The ward buildings are arranged on a half circle, are four storeys in height, and each accommodates 100 patients. All of the service is carried on through subways and with the most costly appliances. The per capita cost of patients in this hospital will be $2500. When it is considered that but 800 of the tens of thousands of tenement house dwellers suffering from tuberculosis can be cared for in this magnificently constructed hospital the vast outlay of money on the buildings appears very unwise. And this unwisdom is the more apparent when it is reflected that the object of the hospital is to furnish the inmates with the largest possible amount of fresh air and sunshine, and the most abundant supply of the simplest and most natural forms of food, as milk, eggs, and cereals.

July 24th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. R. J. Seddon.

THE death of the Premier, the Right Hon. R. J. Seddon, is not only a colonial loss but is worthy of notice because of the many measures which he brought into force with respect to the public weal. His old age pensions scheme, whereby any respectable man and woman who had attained the age of 65 years became entitled to a pension of 10*s* per week, placed on record for the first time in the history of the empire a State acknowledgment that the worn-out worker had a claim outside that of Poor-law relief or charitable aid. For some years he had not been in good health owing to the demands made upon his physical powers by the strenuous life which he led. His physical powers were very great but the strain on them was such as few men could have sustained. He has been known at times not to leave his chambers—when working out his financial statement, for instance—for four days and nights at a stretch. The end came with dramatic suddenness. Warned by his medical attendants that he should take a spell from departmental work he went over to Australia to what they hoped might be a rest and relaxation. The very reverse was the case. A fortnight of receptions, conferences, deputations, and entertainments saw the sturdy leader of the most socialistic of the colonies ascend the gangway of the *Oswestry Grange*. Almost his last message to Australia was: "Good-bye, I'm off to 'God's own country,'" and so truly he was, though he knew it not then. He died peacefully when some 16 hours out from Sydney Heads.

Medical Men in Parliament.

It is rumoured that Dr. William Collins of Wellington is likely to be called to the Legislative Chamber which in the

colonies represents the House of Lords. The selection if made will receive the approval of the great majority of the profession. Since the death of Dr. Morice of Greymouth there has been no member of the profession in either House.

Meat Inspection.

Several outbreaks of ptomaine poisoning have taken place recently due to the usual careless treatment of cooked meat. The reported scandals relative to the American tinned meat industry have focussed public attention here on our system of meat inspection. Undoubtedly, so far as concerns our export trade the system practised here is as nearly perfect as possible. All meat exported has to pass a qualified veterinary officer and every carcass has to bear the Government seal. Over-weight as well as under-weight carcasses are rejected and nothing but the very best is allowed to leave the colony.

Friendly Societies and their Medical Officers.

A step in the right direction was taken at the recent conference of delegates from all the friendly societies which met last month in Wellington. They proposed to set up a board of arbitration, to be composed of members of the friendly societies and officials of the British Medical Association, to which all disputes between lodges and their medical officers should be submitted. Such a board can only be productive of great good. The thrashing out of differences between lodges and their medical officers in the lay press nearly always results in abuse of the profession, whose only weapon of defence as a rule is a boycott of the lodge or any man who has been foolish enough to take office in face of the protests of his professional brethren. In a colony where the safety of the greatest number is so exalted little sympathy is extended to the man who apparently jeopardises the life of a patient by refusing to meet in consultation the ostracised medical man. It would seem from the debates that the average fee throughout the colony is 14*s.* per annum for attendance on the family. Confinements, of course, are charged extra, usually £2 2*s.* to £3 3*s.* In addition, the lodges provide their own medicines.

The Sanitary Section of the International Exhibition.

One of the last of the late Premier's "humanist" schemes, as he was wont to term them, was the resumption by the State of large areas of land in the vicinity of the large centres and the erection of model workmen's cottages thereon. At the coming International Exhibition to be held this year in Christchurch a model of such cottages will be exhibited in the Sanitary Section. The health department has also arranged for the giving of lectures and demonstrations on infant feeding and management.

Proposed Legislation on Food and Drugs.

A new Food and Drugs Bill is to be introduced in the coming session of Parliament and there is an expectation that it will go far to raise the standard of such things.

Wellington, June 11th.

Looking Back.

FROM

THE LANCET, *SATURDAY*, August 2nd, 1828.

SINGULAR CASE OF INVERTED VISION.[1]

DR. GOODMAN relates, in the American Journal of Medical Science, an instance of a boy seven years of age, to whom every object appeared inverted. When his father, who was a distinguished artist, began to give him lessons in drawing, he was very much surprised to find, that whatever object he attempted to delineate, he uniformly inverted; if ordered to make a drawing of a candle and candlestick set before him, he invariably drew it with the base represented in the air, and the flame downwards. If it were a chair or table he was set to copy, the same result was the consequence; the feet were represented in the air, and the upper part of the object, whatever it might be, was turned to the ground. His father, perplexed at what he considered the perverseness of the boy, threatened, and even did punish him for his supposed folly. When questioned on the subject, the youth stated that he drew the objects exactly as he saw them; and as his drawings were, in other respects, quite accurate, there was no reason to doubt his statement. Whenever the object was inverted, previous to his drawing it, the drawing was made to represent it in its proper position; showing that the sensations he received from the eye, were exactly correspondent with the inverted pictures formed upon the retina. This condition of his vision was observed to continue for more than a year, when his case gradually ceased to attract attention, which was, when he was eight years old; since that time, he has imperceptibly acquired the habit of seeing things in their actual position.

On this case, the Editor of the Quarterly Journal of Science remarks, that it is unfortunate the facts were not more closely examined, and their number multiplied. There is nothing extraordinary, he says, in the inverted position of the boy's drawing, corresponding with the inverted figure of the object formed upon the retina; the extraordinary fact is that, of the objects external to the eye, some seemed to the lad in the right position, and others inverted; for, from the description, it would appear that the boy saw the upright object to be drawn, and the inverted drawing of it, in the *same* position. Query, what would he have done, if he had been told to make a drawing of his drawing? that is, to copy his own drawing. The only way in which the statement can be true is, that the boy saw objects, erect or inverted, according as they were further from, or nearer to the eye. The inverted drawing should have been carried from the eye until by the side of the object, and then the effect on the lad compared; and if, in the course of that passage, it seemed to change its position, so as to become inverted, as compared to the original object, then the distance at which the change took place, would have been the spot for some interesting experiments.

BRITISH POSTAL MEDICAL OFFICERS' ASSOCIATION.—The annual dinner of this association was held on July 11th at the Hotel Métropôle, London, Dr. E. L. Adeney of Tunbridge Wells presiding. There was a large attendance from various provincial centres. Among the guests were the Postmaster-General (the Right Hon. Sydney Buxton, M.P.), Sir Henry Burdett, K.C.B., Sir Constantine Holman, Sir Dyce Duckworth, Sir Anderson Critchett, Sir James Crichton-Browne, Sir William J. Collins, M.P., Mr. Henniker-Heaton, M.P., and Surgeon-General William J. Fawcett, C.B., (Deputy Director-General of the Army Medical Service). In replying to the toast of "The Imperial Forces," proposed by Mr. Eugene Wason, M.P., Surgeon-General Fawcett said that it was anticipated that Mr. Haldane's territorial army scheme would include military reforms in which he hoped that the medical men of the whole country would have a part assigned to them. The Postmaster-General, in replying to the toast of his health which had been proposed by Sir H. Gilzean Reid, first spoke of the magnitude of the work undertaken by the Post Office and then went on to say that not only were they indebted to the medical officers of the Post Office for the manner in which they had carried out their duties but for the assistance which they always rendered to the Post Office. The medical officers were consulted in dealing with questions of sanitation and in deciding how many miles an able-bodied man could walk per day and how many pounds he could push along on his tricycle. It was a great honour to the profession that the complaints which were made of the 3000 Post Office medical officers were almost infinitesimal in number and were almost invariably proved to be unfounded. No doubt the medical officers believed themselves to be remunerated inadequately, but he never knew of anyone who did not hold a similar view; and, on the other hand, he could not help thinking that the number of newspapers, telegrams, and letters delivered must do a great deal to destroy the nerves of the population of this country and so to bring a great deal of grist to the medical mill. Mr. Edward Bond, in proposing "Our Universities," said that the germ of universities in Europe arose from the necessity for training practitioners of the healing art. The medical men could therefore congratulate themselves on being the pioneers of the universities of the Western World. Mr. H. Belloc, M.P., responded. In proposing the toast of "The Post Office" Mr. Henniker-Heaton, M.P., said that the British Post Office was the best in the world. The Australians, however, exchanged more letters per head of population than any other country. Mr. E. P. Redford gave the toast of "The Association," to which the chairman replied, remarking that all the large towns were represented in the association, and the final toast was that of "The Guests," which was acknowledged by Sir Henry Burdett

[1] See "Looking Back" in THE LANCET, June 16th, 1906, p. 1709.

MEDICINE IN TORONTO.

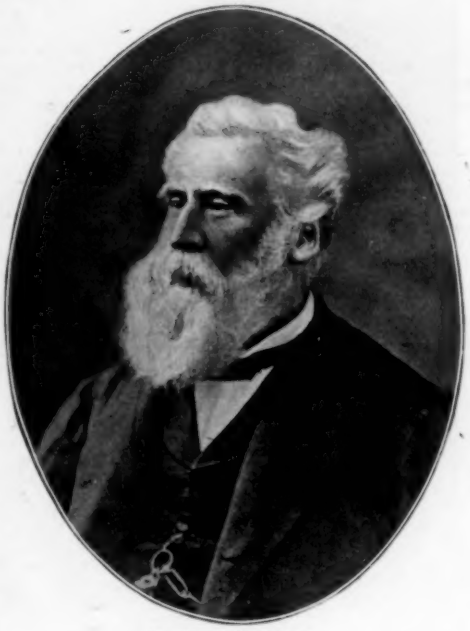
II.[1]

FACULTY OF MEDICINE OF THE UNIVERSITY OF TORONTO, WITH NOTES ON OTHER SCHOOLS OF MEDICINE IN TORONTO.

THE University of Toronto, under the name of King's College, has a historic past. The first charter for the establishment of a university in Upper Canada was granted by King George IV. in March, 1827, and an endowment was provided by setting aside for this purpose 225,000 acres of the choicest Crown lands in the province. The first meeting of the College Council was held in January, 1828, and it is interesting to note that even then the future welfare of the Faculty of Medicine was considered, for the choice of a suitable site for the University buildings was partly determined by the fact of its proximity to the town in order that students might be able to attend upon medical practices and upon lectures in the hospital. Although, however, the Charter had been granted and an adequate endowment provided, King's College did not commence its functions as a teaching university for many years. Indeed, it was not until the year 1843 that the College started on its career as a teaching university.

This tardy recognition of the object for which it was founded was due chiefly to sectarian questions. Professor A. B. Macallum, F.R.S., professor of physiology in the University, has given us some excellent information bearing upon this point. When the College began its career in 1843 the students belonging to other denominations than that of the Church of England (the control of the University was practically vested in the authorities of that Church) were required to get "dispensation" in order to attend the lectures and to receive instruction. As the University was the only one which had a public endowment its control by one denomination was felt to be a great injustice by the other denominations, and the adherents of the latter made vigorous representations regarding it to the Provincial Legislature, which in consequence, by enactment, considerably modified the denominational character of the University, but not to a degree that satisfied the Presbyterians, Methodists, and Roman Catholics. The representatives of these religions, finding it a hopeless affair to bring about the change they desired in the State University, turned their attention to securing from the Legislature university charters for their own denominations. This resulted before 1849 in the granting of six charters, each conferring the right to teach and to confer degrees in all faculties. The agitation to wrest control of the State University from the Church of England was continued and after a severe political struggle this end was attained in 1849, when the Anglican King's College was converted into the undenominational University of Toronto. The Anglicans, thereupon, under the leadership of the Bishop of Toronto, applied to the Imperial Parliament for a charter for a university under the control of the Church of England, and in 1851 this was granted, resulting in the foundation of Trinity College, Toronto.

FIG. 5.



Dr. Edward M. Hodder.

In 1850 Dr. Edward M. Hodder, a Member of the Royal College of Surgeons of England and a medical graduate of King's College, Toronto, started in concert with Dr. James Bovell—"the beloved and saintly James Bovell," who afterwards took orders and ended his life as a missionary in the West Indies—the Upper Canada School of Medicine, which became almost immediately the medical department of Trinity College. Of this faculty Dr. Hodder was Dean until his death in 1878, and throughout his whole professional life he held a leading position in the city. He was a leading member of the staff of the Toronto General Hospital, and at different times was President of the Toronto Medico-Chirurgical Society and of the Canada Medical Association.

But to return a little upon our tracks in an account of the development of King's College. It was on June 8th, 1842, that Dr. Widmer presented his report on the organisation of the Faculty of Medicine of King's College, which report was approved and adopted. It was proposed that the Faculty of Medicine should consist of four professors and a conservator of the museum and a demonstrator of anatomy, the two offices to be associated in the same individual. In November, 1842, Dr. Henry Sullivan had the honour of the first appointment to these joint offices. In November, 1843, the following medical professorships were established in the University: (*a*) a professorship of anatomy and physiology; (*b*) a professorship of the theory and practice of physic; (*c*) a professorship of the principles and practice of surgery; (*d*) a professorship of midwifery and the diseases of women and children; (*e*) a professorship of materia medica, pharmacy, and botany; and (*f*) a professorship of practical anatomy to be held along with the curatorship of the anatomical and pathological museum. The duties of these professors were to be similar to those fulfilled by men occupying positions of the same nature in the universities of Great Britain. Salaries were to be £200 yearly, except in the case of the professor of practical anatomy who was to receive £250 a year. The following gentlemen were appointed to the several posts and were the first professors of the newly founded medical faculty of King's College: Dr. John King, medicine; William Charles Gwynne, M.B., physiology; Dr. William Bulmer Nicol, materia medica; William R. Beaumont, M.R.C.S. Eng., surgery; Dr. George Herrick, obstetrics; and Dr. Henry Sullivan, M.R.C.S. Eng., anatomy and curator of the museum. Dr. Gwynne, whose portrait we give on the next page, a reproduction of the one in Dr. Canniff's book from which we have already quoted, is stated to have designed the building for anatomical study, used by King's College when that university college was housed in the disused Parliament Buildings. He was an able and advanced physician whose views were sometimes a little ahead of those of his colleagues, with all of whom he did not manage to agree.

Regulations for matriculating were established in January, 1844, and the opening lecture of the Faculty of Medicine of King's College was delivered by Dr. Herrick on Jan. 15th of that year. It is interesting to note that the first medical class comprised only two matriculated students, one of whom was James H. Richardson, the Dr. Richardson whose information concerning his contemporaries we have already freely drawn upon.

From the first the medical department seems to have prospered very fairly, the class in anatomy numbering about 20 students. In February, 1842, a resolution was passed

[1] No I. was published in THE LANCET of July 28th, 1906, p. 268.

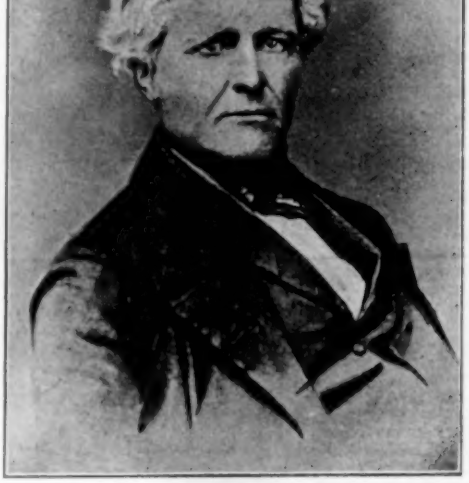
by the council of King's College stating that for the purpose of affording the necessary facilities to students in the Faculty of Medicine it would be advantageous if the Toronto General Hospital might for the present be utilised, and the council proposed accordingly to devote an annual sum to the maintenance of beds for a certain number of patients in addition to those which the funds of the hospital trustees already enabled them to provide. In the following month the Parliament buildings were placed at the disposal of the College council for university purposes, the Parliament having been removed to Kingston. In 1847 Dr. James H. Richardson took Professor Sullivan's place temporarily as professor of anatomy and on the death of the latter was confirmed in that appointment. Dr. Richardson states that at that time the anatomical and chemical departments occupied a square clap-board house, which was lighted by sky-lights and situated west of the Parliament buildings The anatomical class continued to increase and during the session 1852–53 numbered about 60 students. To meet the increased demands of this department the building afterwards known as Moss Hall had been erected, on which site the biological department now stands. In short, everything in connexion with the medical faculty appeared to be in a very healthy and prosperous state when suddenly there came an Act of Legislature which abolished the faculties of medicine and law. As to the real grounds upon which the medical faculty was abolished there is no complete unanimity of opinion but the bulk of evidence tends to show that it was due to political intrigue. Dr. John Hoskin in an address at the opening ceremonies in connexion with the new medical buildings of the University of Toronto has said in reference to this matter :—

> The alleged ground for the abolition of the Medical Faculty was the supposed popular sentiment against State aid for a lucrative profession. Whether this was the real ground is still a matter of dispute. If it was the real ground the Legislature of succeeding years manifested great inconsistency in the application of the principle, for from 1852 to 1871 no less a sum than $65,000 (£13,000) was granted by Parliament to the various medical schools, aid being given in fact to all who applied.

Professor Macallum, who has kindly placed his great knowledge of Canadian medical politics at our disposal, also takes this view and both he and Dr. Richardson attribute to Dr. John Rolph, of whom mention has already been made, the abolition of the medical faculty. Dr. Rolph, on returning from the United States under the amnesty extended to the participators in the Mackenzie rebellion, founded a private medical school in Toronto to compete with the King's College Medical School and, according to Professor Macallum, this competition developed into a marked and very bitter situation, with the result that when Dr. Rolph became a member of the Government of the Two Canadas in 1853, he availed himself of the opportunities of his position to have a new University Act passed, recasting the constitution of the University of Toronto abolishing its medical faculty, and depriving it of power to teach medicine, but permitting it to give degrees in that faculty.

With the disestablishment of the University Faculty of Medicine what may be called the era of proprietary schools in Toronto was entered upon. Several private schools of medicine were established. Two became faculties of medicine, the one attached to the Methodist Victoria University of Cobourg and the other belonging to Trinity University, the Episcopalian institution. Most of the members of the faculty of the Toronto School of Medicine (Dr. Rolph's school) were appointed members of the Faculty of Medicine in Victoria College and Dr. Rolph was the leading spirit. He, however, quickly disagreed with his colleagues, resigned from Victoria University, and established a school of medicine of his own, while his former associates—Dr. H. H. Wright, Dr Uzziel Ogden, and Dr. W. T. Aikins—carried on the Toronto School of Medicine as before. Victoria University then had no teaching medical faculty but held examinations and granted medical degrees. When the confederation of universities took place Victoria University ceased to grant degrees or to hold examinations. After the year 1857 the Toronto School of Medicine was affiliated with the University of Toronto. For many years an anomalous state of affairs as regards medical teaching and the granting of medical degrees prevailed in Toronto. The examinations in medicine at the University of Toronto were of a more searching nature than those of the denominational universities, the consequence being that these institutions granted many degrees—Professor Macallum suggests over 1000!—in medicine, some of which were attained by undoubtedly first-class men, but the risk of a low standard of attainment existed. Although it was fully recognised by the leaders of the medical profession of Ontario that the situation was a very grave one, and that if reforms were not introduced the result would be chaos, the remedy was hard to find. But Dr. H. H. Wright, just alluded to as one of the leaders of the Toronto School of Medicine, proved a doughty champion of reform. He so impressed the medical profession of the province with the need of having a single licensing body established, as the only method of stopping this degrading rivalry, that in 1875 the Legislature was induced to pass the Act which founded the Ontario College of Physicians and Surgeons, the body which now has the right to confer a licence to practise medicine in the province.

FIG. 6.



Dr. William Charles Gwynne.

This step was in the right direction but failed to meet fully the exigencies of the situation, more especially as in 1881 the University of Toronto decided to raise still higher its standard in medicine, the result of which was that in 1886 the total number of students taking the examinations in medicine of the University of Toronto was only 23, while Trinity and Victoria Universities had ten times that number of students of medicine. The medical students of the province were obviously taking the line of least resistance and it was evident to all who had the cause of progressive and scientific education at heart that steps must be taken to arrest the mischief. In 1887 it was resolved therefore that the Faculty of Medicine of the University of Toronto should be reorganised, and negotiations were opened between the then existing Toronto School of Medicine, the Trinity School of Medicine, and the authorities of the University, the idea being to formulate a scheme of union. The overtures of the University were rejected by the Trinity School and accepted by the Toronto School of Medicine, and the staff of this school practically became the Faculty of Medicine of the University of Toronto. At last, in 1903, the Trinity School amalgamated with the University Faculty, and the result of the union, so far as the medical profession is concerned, has been the creation of a strong medical faculty, presenting a united front, and determined to supply the public with a

practising medical profession equipped in every way for its high purposes.

To look back again, however, a little, on Sept. 19th, 1887, Dr. W. T. Aikins was elected the first dean of the Faculty and Dr. A. H. Wright was appointed secretary. The reorganisation scheme was designed upon a somewhat novel plan. It was provided that a reconsideration of the staff should be made every five years, which meant in effect that a fresh re-organisation should be carried out at stated intervals and that all appointments were to lapse at the expiration of a term of five years. Thus a reorganisation took place in 1892 when many important changes were introduced both in the *personnel* of the faculty and in the methods of instruction. Again, in 1897, when the second reorganisation took place, the whole question of the relationship of the Faculty of Medicine to the University of Toronto was fully considered, and the decision was come to that the policy of the past decade should be abandoned, and that appointments to the staff should be made permanent without any arrangement for further organisation. In 1892 the teaching staff of the medical department consisted of 34 members. This number has been added to gradually until in 1903 the staff numbered 56, at which date the final unification took place.

The accompanying table gives a detailed statement of the growth of the student body from 1889 to the present session.

In addition to the number of medical students tabulated it may be mentioned that the dental students take their practical anatomy at the University of Toronto, being registered as "occasional" students. The dental students taking their anatomy thus average in number about 40 yearly.

The following abstracts from the University calendar indicate in concise form the scope of the course of medicine as at present provided in the University of Toronto.

Degrees.—The degree of M.B. is given to the students who have matriculated and who have completed the prescribed course of study and passed the examinations required. The degree of M.D. is conferred on Bachelors of Medicine of at least one year's standing who have presented an approved thesis or who have passed a prescribed examination.

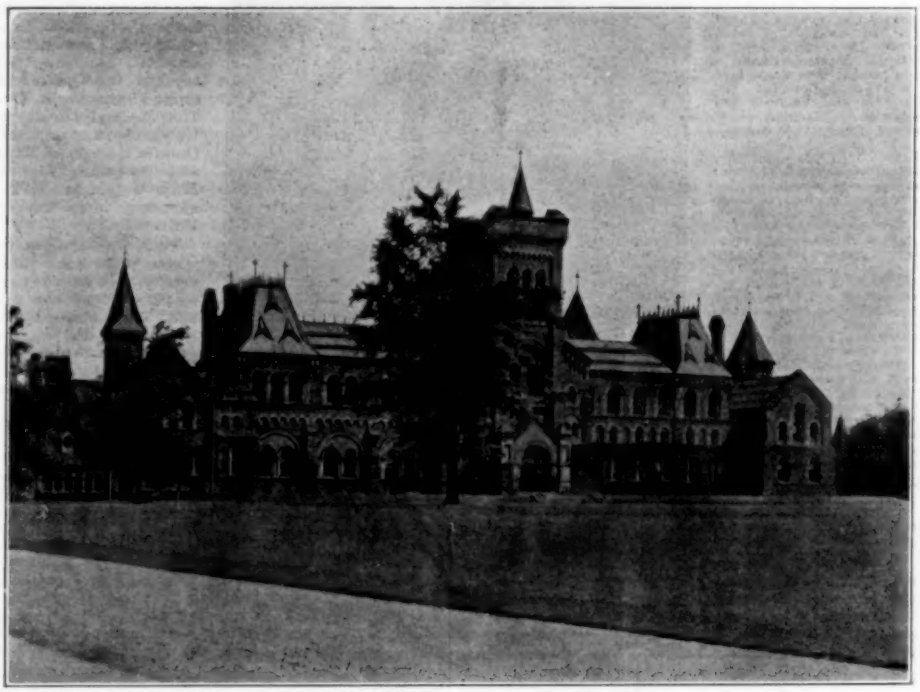
Entrance.—Candidates for a degree must pass the junior matriculation examination unless (1) they possess a degree in arts, not being an honorary degree, from any Canadian or British University; or (2) have already matriculated in the Faculty of Arts or in the Faculty of Law in this University; or (3) have been registered as matriculated in the College of Physicians and Surgeons of Ontario. Candidates may delay matriculation until any time before the second examination for the degree of M.B., but if possible candidates should matriculate before commencing their medical studies.

Instruction.—The course of instruction given by the Faculty of Medicine prepares students primarily for the degree of M.B. and for the licence of the Ontario College of Physicians and Surgeons, but it fulfils the requirements of other Canadian and British Universities and it aims at giving the student such a training in the sciences as is now

Table giving a Detailed Statement of the Growth of the Student Body from 1889 to the Present Session.

Session.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
1889-90	66	66	67	59	—	258
1890-91	81	60	63	59	—	263
1891-92	85	73	69	58	—	286
1892-93	77	78	67	58	—	280
1893-94	72	70	69	65	—	276
1894-95	78	61	57	63	—	259
1895-96	64	71	46	56	—	237
1896-97	62	59	61	41	—	223
1897-98	61	53	55	61	—	230
1898-99	73	54	56	55	—	238
1899-1900	104	62	53	58	—	277
1900-01	124	103	60	52	—	339
1901-02	131	117	99	58	2	407
1902-03	102	119	112	96	3	432
1903-04	159	134	170	159	9	631
1904-05	169	154	124	164	11	622
1905-06	165	158	149	126	10	608

FIG. 7.



The University of Toronto: Main Building.

exacted of all those who desire to obtain any British medical qualification in addition to a Canadian one.

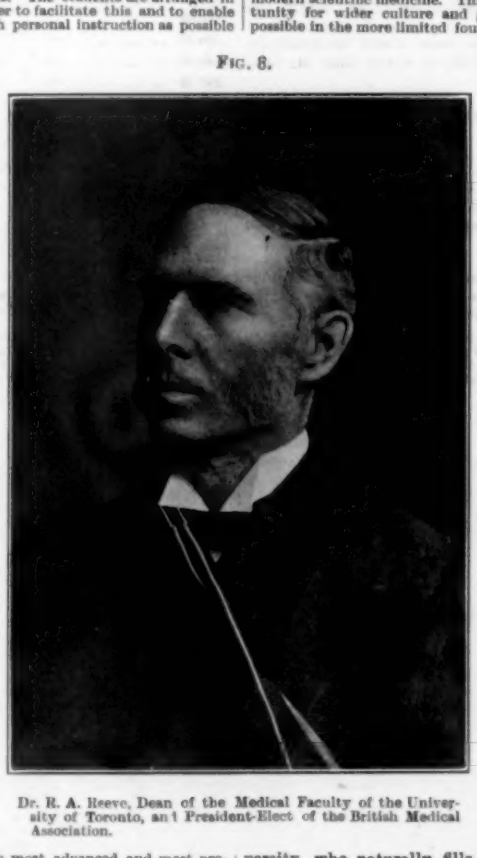
The new building of the Faculty of Medicine has been completed and is fully equipped. A detailed description of it will be found elsewhere in the calendar. With the completion of this building a series of laboratories and lecture theatres is provided on the University grounds where the most ample facilities are afforded for both the practical and didactic instruction of students in every department embraced in the medical curriculum. The laboratories of the new building are devoted solely to the departments of physiology and pathology and, in addition to the provision made for the instruction of undergraduate students, a series of special laboratories is to be found fully equipped for research work. As heretofore, lectures and demonstrations will be given in the biological, chemical, physical, and anatomical laboratories and lecture rooms of the University. It is impossible to provide more complete and efficient accommodation for the teaching of scientific medicine than that which exists in the University of Toronto to-day. Clinical instruction is given in the Toronto General Hospital, the Mercer Eye and Ear Infirmary, the Burnside Lying-in Hospital, the Hospital for Sick Children, St. Michael's Hospital, and other medical charities of Toronto. The facilities for clinical instruction have been very greatly improved and the student has the fullest opportunities for making a thorough examination of all the cases of disease which are found in the wards and out-patient rooms of the hospitals. The students are arranged in small classes (of from 12 to 14) in order to facilitate this and to enable the clinical teachers to give as much personal instruction as possible to each student. The faculty has in the General Hospital a laboratory for clinical pathology and chemistry which has been furnished with microscopes and all apparatus required for the examination of pathological fluids and specimens, and students when they act as clinical clerks will be admitted to all the privileges of the laboratory. The recent munificent gift of $100,000 by Mr. Cawthra Mulock will provide unsurpassed accommodation in the Toronto General Hospital for the treatment of patients in the out-door department and will afford exceptional facilities for the instruction of students.

In the department of anatomy the arrangements for instruction are now unsurpassed. In addition to other methods of illustrating anatomy there will be courses in which the projection microscope will be employed to demonstrate to large classes the relational structure of the different parts of the body as exhibited in frozen sections. In materia medica the course of instruction conforms to the most advanced methods. In conjunction with the lectures in materia medica a series of demonstrations is given in which the important drugs and preparations of the Pharmacopœia are exhibited and the methods of manufacture of the various groups of preparations are practically shown to the student. In the splendidly equipped physiological laboratories a practical experimental course in pharmacology is given, in which each student has an opportunity to test for himself the action of drugs typical of the various pharmacological groups. The faculty has spared no expense in making the arrangements for medical instruction perfect and is convinced that these, added to the unrivalled facilities offered by the University laboratories for the study of chemistry, physics, biology, anatomy, histology, physiology, and pathology, will furnish the fullest opportunities to the student for acquiring a medical education of the most advanced and most progressive character. Attention is directed to the recent establishment of a museum of hygiene.

Examinations.—In addition to the matriculation examination, candidates are required to pass four examinations, which must be taken in the following order: the first at the end of the first session; the second at the end of the second session; the third at the end of the third session; and the final at the end of the fourth session.

Science Course adapted for Students in Medicine.—The special attention of students entering medicine is directed to the recent enactment of the University Senate instituting a new curriculum in science leading to the degree of Bachelor of Arts. This course, entitled the honour department of Biological and Physical Sciences, is specially adapted for students who intend entering eventually upon medicine, and embraces the purely science subjects which are demanded of students in the primary years of medicine. It will therefore be possible in the future for a candidate who has obtained his arts degree in this course to enter immediately the third year of medicine, and he will be qualified to present himself for the degree of Bachelor of Medicine two years after graduating in arts. In other words, it is possible for one to obtain the degrees of Bachelor of Arts and Bachelor of Medicine after six years' study at the University. The very great advantages of this course to a student entering medicine are obvious. The preliminary science subjects of the course in medicine are taught in much greater detail in the arts course, as in the latter is included advanced laboratory and experimental work, such as is not required in the purely medical course of studies. Further, the student is required to become proficient in modern languages, an acquirement which is of great value to the student of modern scientific medicine. This new course not only affords opportunity for wider culture and greater scientific attainment than is possible in the more limited four years' course in medicine but it fits one for a much wider field of usefulness after graduation. The graduate who has taken the science course in arts and subsequently that of medicine is qualified to devote his life to the purely scientific side of medicine if he should so elect after leaving the University, and, moreover, he is undoubtedly better fitted to practise his profession should he desire to prepare himself for that alone. Students may also combine the courses in arts and medicine to a less extent by proceeding to graduation in arts through any one of the honour departments of biology, chemistry, geology and mineralogy, and physics, certain courses and examinations in these departments being accepted as equivalent to similar courses and examinations in the faculty of medicine.

FIG. 6.



Dr. R. A. Reeve, Dean of the Medical Faculty of the University of Toronto, and President-Elect of the British Medical Association.

There are in addition to the University of Toronto two other universities with medical teaching schools in Ontario. One of these is the Western University in London, founded in 1878, which has now between 80 and 100 students, and the other is the Queen's Presbyterian University at Kingston. The Medical Faculty of this University was originally the Ontario College of Physicians and Surgeons, founded in 1852, which in 1892 amalgamated with the Queen's University.

Thus we see that through stress and storm the University of Toronto has come to its own as the principal and central medical teaching school of Ontario. We give above a portrait of the present Dean of the Medical Faculty of the University, who naturally fills the post of President of the British Medical Association on the occasion of the Association visiting Toronto.

(To be continued.)

UNIVERSITY OF CAMBRIDGE: THE R. C. BROWN SCHOLARSHIP IN SPECIAL PATHOLOGY.—The Committee for the Study of Special Diseases (Department of Medicine, University of Cambridge) announces that Dr. R. C. Brown of Preston, Lancashire, has most generously promised the sum of £150 per annum for two years for a pathological scholarship in connexion with the investigations being carried out by the committee on rheumatoid arthritis and allied diseases. This scholarship is to be called the R. C. Brown Scholarship in Special Pathology and will be open to all recently qualified medical men. The holder will be required to work under the direction of the Huddersfield lecturer in special pathology at Cambridge and to assist in the researches which the committee has undertaken on the pathology and bacteriology of the disease. All the necessary material and apparatus required will be provided and previous experience in research work is not essential. The results obtained may be used for a thesis if desired. The appointment will be made in the first instance for one year but this period may be prolonged if satisfactory work is being done. Letters of application should contain a full account of the medical curriculum through which the applicant has passed, but testimonials are not required. Further particulars can be obtained from Mr. T. S. P. Strangeways, Department of Medicine, the University, Cambridge. Such scholarships in aid of research are only too rare in this country and we commend Dr. R. C. Brown's generous action to others.

Obituary.

ELDRED NOBLE SMITH, F.R.C.S. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.,

SENIOR SURGEON TO THE CITY ORTHOPÆDIC HOSPITAL, ETC.

THE death of Mr. E. Noble Smith at the age of 59 years, at his residence, 24, Queen Anne-street, on July 20th, came as a surprise to his wide circle of friends and patients. For some time he had been in failing health, and for the past few months he had endeavoured to take as much rest out of town as his busy life would permit, but he returned to London about three weeks ago on business in connexion with the City Orthopædic Hospital and thereby overtaxed his strength. Within a week he had passed away. The sympathy of all who knew him will be extended to his widow and three children who mourn their loss.

Mr. Noble Smith was born in Hertfordshire in 1847 and was the son of an architect who was well known as a designer of churches both in England and on the continent. He inherited special artistic and mechanical ability, which he put to good use in his profession in after years. He was educated privately and began his medical career by entering St. Mary's Hospital in 1863. He held all the hospital appointments open to students and, when qualified, acted as house surgeon for a year. He was also resident medical officer at the Lock Hospital, Westbourne Green, and was afterwards appointed house surgeon at the Children's Hospital at Bristol. When he relinquished these appointments he took up general practice, but he was chiefly interested in the subject of deformities and devoted all the time at his disposal to the study of such cases. His love of drawing led him to master the art of engraving with the object of illustrating his own publications, and he was quite familiar with the technical details of lithography and chromo-lithography. This knowledge was invaluable when, in association with Dr. E. Klein, he brought out the "Atlas of Histology." Not only were Dr. Klein's preparations faithfully drawn on paper by Mr. Noble Smith but he also engraved on stone many of the plates, and the preparation of the colour stones was entirely worked out by him with true artistic and histological knowledge. Subsequently he published an "Atlas of Anatomy," to which he devoted an immense amount of labour and ingenuity, and the work has proved very useful to students.

It is now more than 25 years since he gave himself up to the practice of orthopædic surgery and he was well known as a specialist in diseases of the spine. He was a strong advocate of special orthopædic treatment in hospitals, and he established an orthopædic department in connexion with that old charity the Farringdon Dispensary, of which he was surgeon. He was invited to become orthopædic surgeon to the British Home for Incurables and was surgeon to the Children's Hospital established by the All Saints' Sisterhood. He was connected with various orthopædic institutions in London but it was the City Orthopædic Hospital in Hatton-garden which stood first in his affection during many years. To it he devoted immense care and thought; and it was through his exertions aided by the generosity of friends that the new operating theatre was built. Mr. Noble Smith was so strongly convinced of the great need of such a hospital in that neighbourhood that to the end of his life he opposed the idea of amalgamation with other orthopædic institutions.

He not only illustrated his own books and publications but he used his skill as a mechanician for the benefit of his patients. He was, in the matter of device, independent of surgical instrument makers, and was tireless in his efforts to invent just the right apparatus to suit each case under his care. His instruments were remarkable for simplicity and effectiveness and never had a forbidding and clumsy aspect. The prone couch, too, was worked out by him according to certain ideas of his own which proved most beneficial to many of his patients. He had the capacity for taking infinite pains and no difficulty could divert him from trying to accomplish what he considered was possible.

He was constantly devising new methods of "making straight the child." In this connexion he was a strong advocate of ambidexterity, maintaining that a perfectly balanced body and mind could not be attained by those who only used the right hand and neglected the help and service which the left hand was designed to afford. He recognised, too, the physical value of *ju-jitsu* and he had special ideas as to the better distribution of the weight of the ordinary clothing of a child.

He was, as readers of our columns know, a regular attendant and speaker at medical conferences and took much trouble on more than one occasion to master a foreign language sufficiently to enable him to read his paper in the language of the country in which the congress was held. He was also careful to keep himself well informed with regard to the developments of orthopædic surgery on the continent and in America, and he was principally instrumental in bringing Dr. Lorenz of Vienna to London to demonstrate his bloodless method of treating congenital displacement of the hip and other deformities. Mr. Noble Smith continued to practise this method successfully with certain modifications of his own. Among his published works are: "The Surgery of Deformities," "Caries of the Spine," "Curvatures of the Spine," "Fractures in the Neighbourhood of Joints, Sprains, and Dislocations," "Paralytic Deformities of the Lower Extremities," "Spasmodic Wry-neck," and "The Management of Lateral Curvature of the Spine and Stooping."

The funeral took place on July 25th at Kensal Green Cemetery and was attended by many of Mr. Noble Smith's friends and colleagues.

REV. RODERICK JOHN JOHNSTONE MACDONALD, M.D. EDIN.

NEWS has reached England from China that the Rev. Dr. R. J. J. Macdonald, a medical missionary belonging to the Wesleyan Methodist Missionary Society, has been cruelly murdered by Chinese river pirates. It appears that he was travelling by steamboat on the West River, and that the boat was attacked by pirates. Seeing the captain of the boat fall badly wounded he, with no thought for his own safety, immediately went to his assistance and it was while in the very act of stanching the captain's wound that he was himself shot. Dr. Macdonald had worked as a medical missionary in the Canton district for 22 years and at the time of his death was stationed at Wuchow, Kwang-si, where he had charge of the mission hospital. He was much beloved by those among whom he laboured and so great was his devotion to the cause he had at heart that he had been home on furlough only once during the 22 years, preferring to remain at his post. So regardless was he of the dangers which beset all foreigners in ill-governed, half-civilised countries that he would not permit a wall to be built round the mission compound, hoping thereby the more readily to gain the confidence of the native Chinese. Right well did he succeed in this, for within a short time of his settling there the mission hospital had to be enlarged, and again, at a later date it had still further to be enlarged, and indeed became quite famous locally. His tragic death adds one more to the long roll of those whose lives are sacrificed in the cause of humanity in far-off lands. He leaves a widow and two sons to mourn him and to them we tender our sincere sympathy.

Dr. Macdonald received his medical education partly at Middlesex Hospital and partly at Edinburgh. He graduated M.B., C.M. Edin. in 1881 and M.D. in 1884. He was medical officer to the Imperial Maritime Customs, Wuchow, and surgeon to the British Consulate and Gaol, Wuchow.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The following gentlemen having completed the final examination in Medicine, Surgery, and Midwifery the Licence of the Royal College of Physicians and Diploma of Member of the Royal College of Surgeons have been conferred on them:—

Charles Amarasuriya, Ceylon and King's College Hospital; Lorimer John Austin, B.A. Cantab., Cambridge University and London Hospital; George Frederick Selborne Bailey, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; George Charles Barnes, Liverpool University; Richard Dunlop Barron, Otago University and Guy's Hospital; Winfred Kelsey Beaman, Charing Cross Hospital; Norman Bennett-Powell, St. Bartholomew's Hospital; Harold Bevis, St. Mary's Hospital; Lionel Hethorn Booth, Charing Cross Hospital; Walter Henry Skardon Burnev Guy's

Hospital; John Butterworth, L.D.S. Eng., Manchester University; Norman Hutchinson Bye, London Hospital; John Graham Castellate, B.A. Cantab., Cambridge University and St. George's Hospital; Frederick Percy Montagu Chapman, St. George's Hospital; Bertram Walter Cherrett, St. Bartholomew's Hospital; Thomas Alexander Clarke, King's College Hospital; Berti Molesworth Collard, London Hospital; David Horace Collingham, B.A. Cantab., Cambridge University and London Hospital; Harold Percy Crampton, M.A. Cantab., Cambridge University and Middlesex Hospital; Henry Neville Crowe, Birmingham University; Samuel Wilfrid Daw, Guy's Hospital; Joseph Taaffe de Cotoau, Guy's and St. Thomas's Hospitals; William Frederic Denning, B.A. Cantab., Cambridge University and London Hospital; Gurth Esger, King's College Hospital; Kenneth Edward Eckenstein, Liverpool University and St. Thomas's Hospital; Rupert Farrant, Westminster Hospital; William Stephen Fenwick, Charing Cross Hospital; Alexander Fleming St. Mary's Hospital; Robert Long Gamlen, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Nadir Hermazshaw Gandhi, B.A. Cantab., Cambridge University and London Hospital; Henry John Gauvain, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Ernest William Giesen, Guy's Hospital; Vivian Bartley Green-Armytage, University College, Bristol; Cyril Verity Griffiths, King's College Hospital; Edward William Dacre Hardy, St. Bartholomew's Hospital; George Atkin Hayman, King's College Hospital; John William Heekes, M.P.S., Charing Cross Hospital; Reginald Beaumont Heygate, Middlesex Hospital; Carl Cornelius Hickey, Westminster Hospital; Richard Athelstane Parker Hill, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Richard Chambers Hill, M.D., C.M. McGill and M.D. Cincinnati; Joseph Henry Howitt, Cambridge University and London Hospital; Godfrey Martin Huggins, St. Thomas's Hospital; Cyril Bertram Hutchison, London Hospital; Claude Johnson, M.B., Ch.B. Birmingham, Birmingham University; Alfred Lancelot Jones, St. Mary's Hospital; Harold Emlyn Jones, London Hospital; James Reginald Kemp, St. Bartholomew's Hospital; Charles Matheson Kennedy, London Hospital; James Armstrong Kilpatrick, University College, Cardiff, and King's College Hospital; Alexander Kinder, M.B., B.Ch., B.Sc. New Zealand, New Zealand University, and London Hospital; William Wilfrid King University College, Bristol; Basil Thorn Lang, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Crichton Stirling Lee, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; David Thomas Lewis, Cardiff and Middlesex Hospital; Percy Collins Litchfield, B.A. Cantab., Cambridge University and Guy's Hospital; Patrick Francis McEvesty, Guy's Hospital; Charles McMane, M.B. Toronto, Toronto University and London Hospital; Herbert Cecil Malleson, L.D.S. Eng., Guy's Hospital; William Burton Marshall, B.A. Cantab., Cambridge and Liverpool Universities; Vernon Lickfold Matthews, London Hospital; Edward Meredyth Middleton, M.B. Toronto, Toronto University and St. Thomas's Hospital; William Henry Miller, Guy's Hospital; William Arnold Milner, Sheffield University and University College Hospital; William Cecil Morrison, M.B. Toronto, Toronto University and University College Hospital; Albert Clifford Morson, Middlesex Hospital; Herbert William Moxon, Cambridge University and London Hospital; Frederick William Murray, Liverpool University; Charles Melton Ockwell, Guy's Hospital; Hubert Arnold Pallant, L.D.S. Eng., Guy's Hospital; John Paulley, St. Bartholomew's Hospital; Henry Austin Philpot, B.A. Oxon., Oxford University and St. Thomas's Hospital; Constant Wells Ponder, M.A. Cantab., Cambridge University and Guy's Hospital; Joseph Marshall Postlethwaite, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Edgar Nelson Ramsbottom, B.A., Manchester University and Durham; Allan Coats Rankin, M.D., C.M., McGill University and London Hospital; Hubert George Rickman, St. Mary's Hospital; Charles Sangster Rivington, University College, Bristol; Richard Pugh Rowlands, Guy's Hospital; Harold Kenneth Salisbury, University College, Bristol; Gerald Claude Scott, M.B., Ch.B. Liverpool, Liverpool University and University College Hospital; George Elliott Seldon, M.D., C.M., Toronto University and London Hospital; Edward Fretson Skinner, B.A., Sheffield and Cambridge Universities; Alexander Buchanan Smillie, M.B. Toronto, Toronto University and University College Hospital; Walter Heaton Smith, Manchester University; George French Stebbing, Guy's Hospital; William Hugh Raymond Streatfeild, B.A. Cantab., Cambridge University and St. George's Hospital; Pherozе Karsetji Tarapurwala, Bombay and Guy's Hospital; Reginald Thane Taylor, London Hospital; Edmund James Fairfield Thomas, University College, Bristol, and Middlesex Hospital; Robert Evans Thomas, University College, Bristol; Arthur William Dunville Thomson, L.S.A., St. George's Hospital; Frederick Boileau Treves, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Sydney Arthur Tucker, St. Bartholomew's Hospital; Stuart William Jackson Twigg, B.Sc. Lond., University College Hospital; Harold Arthur Robert Edmond Unwin, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Robens Wade, Cambridge University and St. Bartholomew's Hospital; Kenneth Macfarlane Walker, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Black Ferguson Wilson, Leeds University; Alfred William George Woodforde, St. Bartholomew's Hospital; John Charles Wootton, St. Thomas's Hospital; Ernest Wragg, B.A. Cantab., Cambridge University and Guy's Hospital; and Everard Lister Wright, St. Thomas's Hospital.

The following gentlemen passed the First Examination of the Board in the subjects indicated at the quarterly meeting of the examiners:—

Chemistry and Physics—Sydney Vere Appleyard, St. Thomas's Hospital; Thomas Ewart Ashley, University College, Bristol; Thomas Cresswell Brentnall, Manchester University; Herbert Harward Budd, Edinburgh University and St. Mary's Hospital; Ronald Edgar Russell Burn, St. Bartholomew's Hospital; Lyonel Charles William Cane, Guy's Hospital; Herbert Vawdrey Capon, St. Bartholomew's Hospital; William Edgar Carter, Leeds University; Dunstan Thierry Corke, London Hospital; James Cowan, Manchester University; Henry William Doll, Guy's Hospital; Daniel Charles Evans, Cardiff; Sandbrook Falkner, London Hospital; Norman Henry Gilbert, St. Mary's Hospital; Aubrey Scott Gillett, King's College Hospital; David Henry Griffiths, University College, Cardiff; John Griffiths, Technical College, Swansea; Alan Ashton Henderson, University College; Augustus Joseph Hickey, King's College and Westminster Hospitals; Harold Howard Hiley, University College, Bristol; Arthur Stanley Hoole, London Hospital; Stanley Wyndham Jamieson, Guy's Hospital; James Evelyn Thoresby Jones, University College Hospital; Rupert Llewellyn Jones, London Hospital; Joseph Bagnall Jordan, Birmingham University; George Arthur Edward Kelman, Westminster Hospital; William Stocks Lacey, Guy's Hospital; Clifford Yule Laing, Manchester University; Wilfred Edgar Levinson, Guy's Hospital; Mark Lindsey, St. Bartholomew's Hospital; Edward Claude Linton, London Hospital; David McRae, London Hospital; Horace Lloyd Mann, St. Thomas's Hospital; Samuel Marle, University College, Bristol; Godfrey Kindersley Maurice, St. Mary's Hospital; Albert Ernest Moore, London Hospital; William Ewart Neale, University College, Bristol; George Nelson, Birkbeck College; Hubert Lewis Clifford Noel, London Hospital; Henry Clarence Wardleworth Nuttall, Liverpool University; Frederick Marcus Oliphant, St. Bartholomew's Hospital; Wilfrid George Orchard, St. Bartholomew's Hospital; John Herbert Owens, London Hospital; Georg Natanael Palmaer, London Hospital; Allan Pimm, University College; Vivian St. Leger Pinnock, University College, Bristol; John Arnoux Prendergast, Stonyhurst College; Robert Bradley Roe, King's College and St. George's Hospitals; Alan Murray Stuart, St. Mary's Hospital and Cheltenham College; William Edward Tanner, Birkbeck College; Richard Teodor Timberg, St. Mary's Hospital; Maximilian Christian Wall Guy's Hospital; Archibald Farrell Waterhouse, Sheffield University; Philip James Watkin, Birkbeck College; William Watts, Manchester University; Herbert White, Birkbeck College; Frederick St. Barbe Wickham St. Mary's Hospital; Russell Facey Wilkinson, St. Mary's Hospital; and John Wilson Williams, University College, Cardiff.

Biology.—Burgess Barnett, St. Bartholomew's Hospital; Percy Lytton Tempest Bennett, London Hospital; Kareem Black, St. Bartholomew's Hospital; Hilton Rose Brown, Birkbeck College; Frank Bocquet Bull, Birkbeck College; Eric Clarence Cline, Guy's Hospital; William Everard Sherard Digby, Guy's Hospital; George James Frank Elphick, St. Mary's Hospital; Montague Albert Farr, Charing Cross Hospital; Norman Ernest Farr, St. Paul's School; Andrew Alexander Fulle, Sheffield University; Alfred James Graves, City of London College and Charing Cross Hospital; Alexander Percival Green, University College; Bernard Grellier, Birkbeck College; David Henry Griffiths, University College, Cardiff; John Griffiths, Technical College, Swansea; Spencer Frederick Harris, Middlesex Hospital; Philip Vyvian Eversleigh Hayes, St. Mary's Hospital; Arthur Stanley Heale, London Hospital; Augustus Joseph Hickey, Westminster and King's College Hospitals; Samuel Hutchinson, University College Hospital; Joseph Bagnall Jordan, Birmingham University; William Stocks Lacey, Guy's Hospital; John Albert Lamb, Manchester University; Wilfred Edgar Levinson, Guy's Hospital; Malcolm Milton Melrose, Manchester University; William Ewart Neale, University College, Bristol; Wilfrid George Orchard, St. Bartholomew's Hospital; Alfred Spearman Pern, St. Thomas's Hospital; Vivian St. Leger Pinnock, University College, Bristol; Marcus Holroyd Ratton, Birkbeck College; Victor George Roberts, Manchester University; Harold Robinson, Manchester University; Philip Scott, L.D.S. Eng., City of London College; Theodore Scott, City of London College; Harold Gordon Spain, Guy's Hospital; Alan Murray Stuart, St. Mary's Hospital; Richard Teodor Timberg, St. Mary's Hospital; Arthur George Trott, Birkbeck College; Charles Grimshaw Waddington, Technical College, Bradford; William Watts, Manchester University; Frank Wells, St. Mary's Hospital; and William Hubert Williams, Birkbeck College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND—In the Preliminary Science Examination for the Licence in Dental Surgery the following gentlemen passed in Chemistry and Physics:—

Reginald John Bailey, Polytechnic Institute; Malcolm Barker, Birkbeck College; Charles Holme Barnett, Municipal School, Gloucester; Charles Edward Brown, Technical School, Liverpool; Harold Robert Cole, City of London College; Harry Davis, Rutherford College; Walter Edmund Drummond, University College, Bristol; Harold Harding Glover, Birkbeck College; Edwin Allan Thomas Green, Manchester University; Percy Samuel Harrison, Guy's Hospital; Harold Harvey, Technical Institute, Walsall; Francis James Hayman, University College, Bristol; John Percival Helliwell, Technical School, Manchester; Clement John Henry, Birkbeck College; Louis Edwin Hitchcock, Middlesex Hospital; Graham Hunt, Guy's Hospital; Arthur Carlyle Jackson, Harris Institute, Preston; Arthur William Johnson, Birkbeck College; Leonard Algernon Bertram King, Guy's Hospital; William Stuart Lang Technical School, Plymouth; Harris Raphael Lyons Municipal Technical School, Swansea; James Norman McNaught, Technical School, Liverpool; Ainslie Palk Marsh, Royal Albert Memorial College, Exeter; John William Mayer, Technical School, Wandsworth; Richard Gornall Miller, Harris Institute, Preston; Hubert Stanley Morris, Municipal Technical College Swansea; Archie Ernest Frederick Peaty, University College Cardiff; John Morley Pomeroy, Birkbeck College; Roland Thomas Pounds, Birkbeck College; Alexander James Roberts, Birmingham University; Alfred Thomas Rycroft, Birkbeck College; Albert John Schaefer, Municipal Technical College, Derby; Alfred Gladstone Scott, Birmingham University; Sydney Victor Shrimpton, University College, Bristol; Edgar Smith, Guy's Hospital; William Edgar Antonius Tibbalds, Municipal Technical School, Brighton; Titus Townend, Guy's Hospital; Augustus Vallack Wallis, Sheffield University; Walter William Whittington, Birkbeck College; Charles Bustace Williams, Birkbeck College; Francis Cecil Wilson, Leeds University; and Henry Alfred Woodhouse, Middlesex Hospital.

UNIVERSITY OF LONDON.—At the intermediate examination in medicine held in July the following candidates were successful:—

†Oswald John William Adamson, King's College; Mary Howard Atherton, London (Royal Free Hospital) School of Medicine for Women; Ardeshir Pestonji Bacha, University College and Grant Medical College, Bombay; Ernest Fryer Ballard, St. Thomas's Hospital; Robert Sidney Barker, Westminster Hospital; Anne Borrow, London (Royal Free Hospital) School of Medicine for Women; Stanley Boyd London Hospital; Ethel Mary Brand, London (Royal Free Hospital) School of Medicine for Women; †‡Eda Stanley Bryan-Brown, London (Royal Free Hospital) School of Medicine for Women; David Howard Caine, St. Thomas's Hospital; George Henry Chisnall, London Hospital; †‡Elsie Mary Chubb, London (Royal Free Hospital) School of Medicine for Women; Bertie Isaac Cohen, King's College and St. George's Hospital; Maneckjee M. Cowasjee and Sydney John Darke Guy's Hospital; Harry Cecil R. Darling, University College and University of Otago; Thomas Benjamin Dixon, University College, Bristol; Josiah Rowland Benjamin Dobson, University College, Cardiff, and St. Bartholomew's Hospital; Dean Dunbar, University of Leeds; Irene Cecil Davy Eaton, London (Royal Free Hospital) School of Medicine for Women; *†Edwin G. Fearnsides, B.Sc., University of Cambridge; Mabel Foley, Queen Margaret College and University, Glasgow; William Lionel Evelyn Fretz, University College; Cyril George Galpin, St. Mary's Hospital; Seymour Richard Gleed, St. Thomas's Hospital; Arthur Atkins Greenwood, Guy's Hospital; James Randolf Gyllencreutz St. Thomas's Hospital; David John Harries, University College, Cardiff; Edward Ratcliffe Holborow, University College Bristol; Alan William Holthusen St. Bartholomew's Hospital; Howell Tylford Howells, University College, Cardiff; *†Walter Burford Johnson (sch larship in anatomy), St. Thomas's Hospital; Cecil Augustus Joel B Sc. University College Bristol; William Britain Jones University College Cardiff; Hugh Braund Kent and Walter Shirley Kidd Guy's Hospita; *†‡Blanche Pattle Lyndup, London (Royal Free Hospital) School of Medicine for Women; †Joseph Pearson Little, London Hospital; †William Ernest Lord, Universities of Manchester and Leeds; †Lukis Theodore Stewart and Graham Rigby Lynn St. Bartholomew's Hospital; Marjorie Eva Middleton London (Royal Free Hospital) School of Medicine for Women; *†Edwin Bertram Morley (scholarship in physiology), Douglas George S. R. Oxley, and †‡Arthur Henry Penistan, London Hospital; Alfred Alexander Webster Petrie, The University and Medical School of the Royal Colleges, Edinburgh; Ellen Mary Pickard, London (Royal Free Hospital) School of Medicine for Women; William Norman Pickles, University of Leeds; Norman Prescott, University College; †Roger Aiken Rankine, Guy's Hospital; Harry Dudley Rollinson, University of Birmingham; Norman Guy Hawtrey Salmon, Charing Cross Hospital; Frank Sholl Scott, University College, Bristol; *Reginald Rutherford Smith, St. Bartholomew's Hospital; Florence Stacey, London (Royal Free Hospital) School of Medicine for Women; Vernon Harold Starr, King's College; Marion Stocks, Victoria University; Harold Lindley Tasker, University College; †John Thompson, Victoria University; Cecil Carrington Tudge, Guy's Hospital; ‡Robert William Walter Vaughan, University College; *†Anna Belinda Walsh, London (Royal Free Hospital) School of Medicine for Women; Francis Martin Rouse Walshe, University College; Gordon Reginald Ward, King's College and Westminster Hospital; Arthur Leonard Weakley, St. Bartholomew's Hospital; Leonard Mortis Webber, Charing Cross Hospital; Henry Owen West, King's College; Ernest William Witney, St. Thomas's Hospital; Charles Albert Wood, Guy's Hospital; and Colin Ilderton Wright, London Hospital.

* Distinguished in anatomy. † Distinguished in physiology.
‡ Distinguished in pharmacology.
§ Bracketed equal for scholarship in pharmacology.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following students of the above school successfully passed the examination in Tropical Medicine held at the end of the twenty-first session, May to July, 1906:—

*Captain L. P. Stephen, I.M.S., M.B., Ch.B. Aberd., D.P.H. Lond.; *L. A. Prins, L.M. & S. Ceylon, L.R.C.P. & S. Edin. (colonial service); *Captain A. W. Cook Young, I.M.S., M.B., Ch.B., D.P.H. Aberd.; *Major E. Wilkinson, F.R.C.S. Eng., L.R.C.P., D.P.H. Cantab.; W. S. Allan, M.B. Ch.B. Glasg.; R. T. Booth, M.B., B.Ch., R.U.I.; I. McW. Bourke M.R.C.S. Eng., L.R.C.P. Lond. (colonial service); John Cross M.B., Ch.B. Glasg. (colonial service); B. M. Flood, L.R.C.P. & S. Edin. (colonial service); E. N. Graham, L.R.C.P. Lond., F.R.C.S. Edin.; E. M. Nicholl M.B. C.M. Edin.; J. Ottley, L.R.C.P. & S. Edin. (Staff-Surgeon, R.N. retired); E. C. Peake, M.B., Ch.B. Edin.; E. Robledo, M.D. Columbia; Miss L. G. Thacker, M.B., B.S. Lond.; Captain L. L. G. Thorpe, R.A.M.C.; A. B. Tighe, M.B., B.Ch. Dub.; W. M. Wade, M.B., B.Ch. Dub.; and Miss K. Wyse, M.D. Zurich.

* With distinction.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in the Faculty of Medicine in July the following candidates were successful in the subjects indicated:—

SECOND EXAMINATION.

Anatomy and Physiology.—W. A. Bullough, J. K. Hartley, Ernest Howe, T. M. Popple, B. W. E. Trevor-Roper, and W. B. Wamsley.
Physiology.—R. J. Batty.
Materia Medica and Pharmacy.—H. E. Allanson, S. J. Clegg, D. I. Connolly, Caleb Davies, F. H. Diggle, John Gow, H. M. C. Green, J. H. C. Green, T. T. Higgins, Ernest Howe, R. A. Jackson, N. T. K. Jordan, T. A. Jordan, Niel McDonald, Edith M. Marsden, C. B. Marshall, Mabel E. May, G. H. E. Nicholls, Harry Platt, A. A. Smalley, Norman Tattersall, R. H. Titcombe, J. F. Ward, G. Whitehead, and A. E. Woodall.

FINAL EXAMINATION.

Part I.—John Allen, G. W. Bury, Harold Coppock, D. J. Dakeyne, Frederick Hall, S. E. McClatchey, V. D. Madgavkar, J. L. Moir, George Rainford, Douglas Rodger, F. K. Smethurst, Vincent Southwell, H. E. R. Stephens, J. V. Steward, T. W. Todd, F. D. Walker, B. V. Ward, and Jerry Whitehead.
Part II.—Granville Ainsworth, *D. E. Core, H. S. Dixon, Daniel Dougal, Philip Ferguson, Joseph Fletcher, C. L. Franklin, E. F. S. Green, Robert Haslam, Cecil Hibbert, Marshall Hooper, R. H. Mercer, G. F. Porter, A. R. Quine, C. H. S. Redmond, G. H. H. Russell, H. G. Ward, J. S. Webster, W. A. Wheeldon, A. W. T. Whitworth, and William Wilson.

* With first-class honours.

UNIVERSITY OF LIVERPOOL.—At examinations held in July the following candidates were successful:—

M.B., Ch.B.—Second Examination.—Part A: G. Brown and S. P. Sykes.—Part B: A. Adams, K. J. C. Bradshaw, L. Buckley, Euphemia L. Farmer, A. G. W. Owen, D. Parkes, J. F. Roberts, and N. W. Steinberg. *Final Examination.*—Part I.: T. T. Apsimon, K. R. Armstrong, J. W. Cropper, J. A. Donnellan, A. C. Edwards, C. H. H. Harold, S. J. C. Holden, M. L. Farmer, A. Jones, W. R. Pierce, J. H. Rawlinson, A. M. M. Roberts, G. F. R. Smith, E. Swales, R. S. Taylor, S. V. Tinsley, and G. W. Williams.—Part II.: L. Adamson, E. Alderson, N. Brady, J. L. Browne, E. S. H. Gill, and S. W. McLellan.—First-class honours: F. R. Tickle.—Second-class honours: G. C. Barnes and R. A. Hendry.
Degree of B.D.S.—Final Examination.—W. R. Bennette (second-class honours) and H. Dagger.
Diploma in Public Health.—W. F. Colclough, M.D. Camb., M.R.C.S. Eng., L.R.C.P. Lond.; T. U. Mercer, M.B., Ch.B. Vict.; and L. A. Williams, M.D. Edin.
Diploma in Tropical Medicine.—J. R. Adie, Major I.M.S., M.B. Lond., M.R.C.S. Eng.; J. A. Chisholm, L.R.C.P. & S. Edin., L.F.P. & S. Glasg.; H. C. Jeffreys, M.R.C.S. Eng., L.R.C.P. Lond.; M. B. Pailthorpe, M.B., B.S. Lond.; H. T. Palmer, M.R.C.S. Eng., L.R.C.P. Lond.; W. I. Taylor, M.R.C.S. Eng., L.R.C.P. Lond.; E. J. Tynan, F.R.C.S. Irel.; C. F. Watson, M.R.C.S. Eng., L.R.C.P. Lond.; and G. A. Williamson, M.D. Aberd.

UNIVERSITY OF EDINBURGH.—The following degrees and certificates were conferred on July 27th:—

Doctor of Medicine.—‡Russell Gerald William Adams, M.B., Ch.B., New Zealand; William Anderson, M.B., C.M., New Zealand (*in absentiâ*); James Reginald Atkinson, M.B., C.M., England; Alexander Clarke Begg, M.B., Ch.B., New Zealand (with First-class Honours); John Henderson Bell, M.B., Ch.B., Scotland; Alfred John Bienemann, M.B., C.M., England; ‡Vivian Chastel de Boinville, M.B., Ch.B., England; Isabella Douglas Cameron, M.B., Ch.B., Scotland; William Sibbald Campbell, M.B., C.M., Scotland; Thomas Francis Cavanagh, M.B., Ch.B., Ireland (with Second-class Honours); †Robert Durward Clarkson, B.Sc., M.B., C.M., Scotland; ‡James Harris Connolly, M.B., Ch.B., Ireland; ‡John Frank Crombie, M.B., C.M., Scotland; †David Halliday Croom, B.A., M.B., Ch.B., Scotland (*in absentiâ*); ‡Thomas Ashton Davies, M.B., Ch.B., Wales; ‡John Lawson Dick, M.B., C.M., Scotland (*in absentiâ*); ‡Charles William Eames, M.B., C.M., England; Thomas Henry Easton, M.B., Ch.B., Scotland; Thomas Geoffrey Easworth, M.B., C.M., England; *Edward Fawcett, M.B., C.M., England; ‡Alfred Nolan Fell, M.B., Ch.B., New Zealand; Joseph William Gaines, M.B., C.M., England; ‡James Charles Gilchrist, M.B., Ch.B., Scotland; Archibald Gillespie, M.B., Ch.B., Scotland; ‡Lewis Grant, M.A., M.B., C.M., Scotland; Alan Young Greenwood, M.B., C.M., England; †William Wells Greer, M.B., Ch.B., Australia (*in absentiâ*); †Mathew Holmes, M.B., Ch.B., Scotland; John William Ingles, M.B., Ch.B., Scotland; ‡Alexander Ingram, M.B., C.M., Scotland (*in absentiâ*); *Edward Bald Jamieson, M.B., Ch.B., Scotland; ‡Robert William Johnstone, M.A., M.B., Ch.B., Scotland (with Second-class Honours); ‡James William Keay, M.B., Ch.B., Scotland; Ivan Cochran Keir, M.B., Ch.B., England; ‡John Edward Harry Kelso, M.B., C.M., India; *James Mathieson Kirkness, M.B., Ch.B., Scotland (with First-class Honours); Hermann Kramer, M.B., Ch.B., South Africa (*in absentiâ*); ‡George Davison Laing, M.B., Ch.B., England; ‡Arthur James Lewis, M.B., Ch.B., England; ‡Ernest William Lewis, M.B., Ch.B., India; Creighton Hutchinson Lindsay, M.B., Ch.B., Ireland; James Lindsay, M.B., Ch.B., Scotland; Andrew Walker Buist Loudon, M.B., Ch.B., Scotland; Arthur James M'Closky, M.B., C.M., India; ‡James Smith M'Cracken, M.B., C.M., Scotland; William John Morehead M'Farlan, M.B., Ch.B., Scotland; ‡William Mackenzie, M.A., B.Sc., M.B., Ch.B., Scotland; Laurence Craigie Maclagan Wedderburn, M.B., Ch.B., Scotland; ‡Robert Alexander MacKenzie Macleod, M.B., C.M., Scotland; ‡Louis William Crombie Macpherson, M.B., Ch.B., Scotland; ‡Richard Manwaring Manwaring-White, M.B., Ch.B., England; David Pieter Marais, M.B., Ch.B., South Africa; †Frank Mason, M.B., C.M., England (*in absentiâ*); ‡Paul Mathews, M.B., Ch.B., England (with Second-class Honours); ‡John Seymour Maynard, M.B., C.M., England; †John Hally Meikle, M.A., B.Sc., M.B., C.M., Scotland; Harry George Melville, M.B., C.M., Scotland; ‡James Miller, M.B., C.M., Scotland; †Thomas Walker Mitchell, M.B., C.M., Scotland; †Stuart Alexander Moore, B.A., M.B., Ch.B., New Zealand; ‡Edward M'Killop Nicholl, M.B., C.M., India; Harry Overy, M.B., Ch.B., England; ‡Robert Owen, M.B., C.M., Wales; Benjamin Lewis Paton, B.A., M.B., C.M., India; Evan Christopher Prichard, M.B., Ch.B., Wales; ‡Henry Howard Roberts, M.B., Ch.B., England; John Higgin Robertson, M.B., C.M., Scotland; William Sibbald Robertson, M.B., Ch.B., Scotland; George Arthur Rorie, M.B., Ch.B., Scotland; Andrew Beaconsfield Ross, M.A., M.B., Ch.B., Scotland; ‡Richard Adolphus Ross, M.B., C.M., Ireland; Sheila Margaret Ross, M.B., Ch.B., Scotland; François Augusta Rouget, M.B., C.M., Mauritius; David Jobson Scott, M.B., Ch.B., Scotland (with Second class Honours); John Alexander Scott, M.B., C.M., England (*in absentiâ*); George Broadfoot Serle, M.B., C.M., Scotland (*in absentiâ*); *Charles John Shaw, M.B., Ch.B., Scotland; *William

Cameron Sillar, B.Sc., M.B., C.M., England; †John William Simpson, M.B., C.M., Scotland; †William Hamilton Simpson, M.B., Ch.B., England; ‡William Maule Alexander Smith, M.B., Ch.B., Scotland; *John Tait, B.Sc., M.B., Ch.B., Scotland (with First-class Honours); ‡Herbert Pank Thompson, M.B., Ch.B., England; George Clark Trotter, M.B., Ch.B., Scotland; John Ogilvie Veitch, M.B., C.M., Scotland; ‡Harry Whittaker, M.B., C.M., England; ‡Friedrich Adolf Wille, M.B., Ch.B., Cape Colony; William Young Woodburn, M.B., Ch.B., Australia; and Maurice Beresford Wright, M.B., C.M., England (*in absentid*).

Doctor of Science in the Department of Public Health.—Thomas Finlayson Dewar, M.D., B.Sc.; and Carstairs Cumming Douglas, M.D., B.Sc.

Master of Surgery.—‡Francis Dillon Scobie Mackenzie, M.B., Ch.B., New Zealand.

* Awarded gold medals for their theses.
† Highly commended for their theses.
‡ Commended for their theses.

Bachelor of Medicine and Master in Surgery.—Patrick William Freyer, Ireland (*in absentid*).

Bachelor of Medicine and Bachelor of Surgery.—Geoffrey Palmer Adshead, England; James Hislop Aikman, M.A., Scotland; James Allen Ainscow, England; John Alexander, M.A., Scotland; Arthur William Atkinson, England; Reginald Cyril Everitt Atkinson, M.A., New Zealand; Alexander Frederick Babonau, India; Cecil Robert Morshead Baker, England; Douglas Panton Blair, Scotland; ‖Frank Blamire, England; John Darling Bowie, Scotland; Frederick Hoysted Bradley, Ireland; Innes Wares Brebner, M.A., Orange River Colony; ‖Thomas Graham Brown, B.Sc., Scotland; Charles Herbert Burgess, Ireland; Alice Meredith Burn, New Zealand; Edward Burnet, B.A., England; John Stewart Caldwell, Scotland; §Sydney Taylor Champtaloup, New Zealand (*in absentid*); Alexander Ernest Chisholm, Scotland; Marjorie Duake Cohen, India; William Core, M.A., Scotland; Samuel Gordon Corner, M.A., Scotland; Denis Cotterill, Scotland; Agnes Marshall Cowan, Scotland; Richard Graham Cunningham, Scotland; James Alexander Currell, Ireland; John Spencer Daniell, New Zealand; Jagonmohon Dass, India; Surendra Kumar Datta, B.A., India; Richard Davidson, Scotland; ‖Arnold Davies, B.A., Wales; §Alan Macdonald Dick, Scotland; Thomas Herbert Dickson, Scotland; §Alexander Murray Drennan, Scotland; John Donald Campbell Duncan, New Zealand; Robert Duncan, Scotland; David Dowie Dunn, Scotland; Ethelbert William Dyer, Natal; ‖Samuel Slimmon Dykes, Scotland; §James Sutherland Edwards, India; Percy El-Karey, Turkey; Reginald Hannay Fothergill, England; Mark Stewart Fraser, Scotland; ‖John Williamson Frew, Scotland; Jessie Handyside Gellatly, Scotland; Khagendra Nath Ghosh, India; George Herbert Rae Gibson, Scotland; Laurence Gibson, Scotland; John Gilmour, Scotland; Edwin Charles Girling, England; George Arthur Gordon, Scotland; John Edward Gordon, Scotland; William Lennox Gordon, Cape Colony; Everard Roney Grieveson, M.A., England; ‖William M'Alpine Pollock Henderson, M.A., B.Sc., Scotland; Isabel Hill, Scotland (*in absentid*); Arthur Stuart Holden, England; George Henry Howe Ireland; §Thomas Baillie Johnston, Scotland; Noel Wallace Kidston, Scotland; ‖Archibald George Kirwood Ledger, England; Alfred Leitch, Scotland; Olive Tredway Leonard, India; James Lindsay, Scotland; Peter Lornie, Scotland; James Prain Lowson, M.A., Scotland; Alexander Tyrrell M'Donald, Scotland; ‖John William Scott Macfie, B.A., B.Sc., England; George Barbour Macgregor, Scotland; Thomas Steven M'Intosh, M.A., Scotland; James MacKenzie, Scotland; James Neil MacLaughlin, Ireland; Murdo Maclean, M.A., Scotland; John Andrew MacLeod, Scotland; John Bruce M'Morland, Scotland; Robert Patrick M'Morland, Scotland; George M'Mullan, Ireland; Alexander Church Brodie M'Murtrie, Scotland; William Johnston Macnab, Scotland; John Murdo MacPhail, Scotland; Alexander Stuart Mactavish, Scotland; ‖John Norman M'Turk, England; David Mann, Scotland; John Sinclair Manson, Scotland; John Matheweon, M.A., Scotland; Gordon Moncreiff Melville, Ireland (*in absentid*); Hugh James More, M.A., Scotland; James Elliot Murray, Scotland; Meher Ardeshir Dadabhai Naoroji, India; Algernon James Philbrick Nowell, England; James Lee Hamilton Paterson, Scotland; Alexander MacTier Pirrie, B.Sc., Scotland; §George Pollock, Scotland; Harold Burnet Porteous, Scotland; Agnes Ellen Porter, Scotland; §Claude Pycroft, England; Edith Gertrude Pycroft, England; Mabel Lida Ramsay, England; Gustav Raubenheimer, Cape Colony; John Ritchie, Scotland; William Gregory Rivers, England; Henry Drummond Robb, Scotland; Robert M'Naught Robb, Scotland; Thomas Ernest Roberts, Scotland; Graham Robertson, Scotland; Æneas Rose, M.A., Scotland; Frank Ross, Scotland; John Macdonald Ross, Scotland; Zachary Macaulay Hamilton Ross, Scotland; Eustace Russell, England; Alexander Sandison, Scotland; Elsie Blair Saunders, England; §William Omand Sclater, B.Sc., Scotland; Thomas Henry Scott, Scotland; Hugh Lancelot Sells, England; Ernest David Simson, Scotland; Archibald Guelph Holdsworth Smart, Scotland; William Torrance Smith, Scotland; Alexander Stephen, M.A., Scotland; Roger St Clair Steuart, New Zealand; §Alexander Dron Stewart, Scotland (*in absentid*); Gert Hendrik de Wet Stofberg, Cape Colony; Kesavan Raman Tampi, B.A., India; David Robertson Taylor, B.A., Ireland; John Archibald Taylor, England; Cyril Hocken Tawsley, M.A., New Zealand; Edward Roland, Thompson, England; Harold Hay Thorburn, Scotland (*in absentid*); Archibald Todrick, Scotland; James Nisbet Turnbull, Scotland; Nettie Bell Turnbull, Scotland; Annie Davidson Urquhart, Scotland; Edmund Wayne Vaughan, Ireland; Andries Gerhardus Visser, Cape Colony; George Frederick Charles Wallis, England; Robert Henry Walton, Wales; William Ormerod Welply, Ireland; William Halliday Welsh, Scotland; Owen Herbert Williams, Wales; William Edward Rees Williams, England; Charles Richard Wills, England; Ethel Wiseman, England; Archibald Francis Wright, England; and ‖Alexander Waugh Young, England.

§ Passed with First-class Honours.
‖Passed with Second-class Honours.

Diploma in Tropical Medicine and Hygiene.—Thomas Hill Jamieson, M.B., C.M. (with distinction), and Alexander MacRae, M.A., M.B., Ch.B.

Special University Certificate in Diseases of Tropical Climates.—Geoffrey Palmer Adshead, M.B., Ch.B.; James Allen Ainscow, M.B., Ch.B.; John Alexander, M.A., M.B., Ch.B.; Douglas Panton Blair, M.B., Ch.B.; Frederick Hoysted Bradley, M.B., Ch.B.; Innes Wares Brebner, M.A., M.B., Ch.B.; Alice Meredith Burn, M.B., Ch.B.; Edward Burnet, B.A., M.B., Ch.B.; Sydney Taylor Champtaloup, M.B., Ch.B. (*in absentid*); Marjorie Duake Cohen, M.B., Ch.B.; Samuel Gordon Corner, M.A., M.B., Ch.B.; Agnes Marshall Cowan, M.B., Ch.B.; Richard Graham Cunningham, M.B., Ch.B.; James Alexander Currell, M.B., Ch.B.; Henry Curwen, M.B., Ch.B. (*in absentid*); Jagonmohon Dass, M.B., Ch.B.; Arnold Davies, B.A., M.B., Ch.B.; Alan MacDonald Dick, M.B., Ch.B.; Thomas Herbert Dickson, M.B., Ch.B.; Ethelbert William Dyer, M.B., Ch.B.; Samuel Slimmon Dykes, M.B., Ch.B.; James Sutherland Edwards, M.B., Ch.B.; Khagendra Nath Ghosh, M.B., Ch.B.; Edwin Charles Girling, M.B., Ch.B.; George Arthur Gordon, M.B., Ch.B.; John Edward Gordon, M.B., Ch.B.; William M'Alpine Pollock, Henderson, M.A., B.Sc., M.B., Ch.B.; Hugh Jamieson, M.D., C.M.; Peter Lornie, M.B., Ch.B.; James Prain Lowson, M.A., M.B., Ch.B.; John Andrew MacLeod, M.B., Ch.B.; John Sinclair, Manson, M.B., Ch.B.; William Robert Colvin Middleton, M.A., M.B., C.M. (*in absentid*); Alexander MacTier Pirrie, B.Sc., M.B., Ch.B.; Agnes Ellen Porter, M.B., Ch.B.; Edith Gertrude Pycroft, M.B., Ch.B.; John Ritchie, M.B., Ch.B.; Henry Drummond Robb, M.B., Ch.B.; Robert M'Naught Robb, M.B., Ch.B.; Graham Robertson, M.B., Ch.B.; Frank Ross, M.B., Ch.B.; John Macdonald Ross, M.B., Ch.B.; William Omand Sclater, B.Sc., M.B., Ch.B.; Thomas Henry Scott, M.B., Ch.B.; Archibald Guelph Holdsworth Smart, M.B., Ch.B.; Alexander Stephen, M.A., M.B., Ch.B.; Kesavan Raman Tampi, B.A., M.B., Ch.B.; Cyril Hocken Tawsley, M.A., M.B., Ch.B.; Harold Hay Thorburn, M.B., Ch.B. (*in absentid*); James Nisbet Turnbull, M.B., Ch.B.; Robert Henry Walton, M.B., Ch.B.; and Ethel Wiseman, M.B., Ch.B.

The following Fellowships, scholarships, and prizes have been awarded:—

Gunning Victoria Jubilee Prize in Obstetrics, James Mathieson Kirkness, M.D., Ch.B.; Ettles Scholarship, Alexander Murray Drennan, M.B., Ch.B.; Allan Fellowship in Clinical Medicine and Clinical Surgery, Alexander Dron Stewart, M.B., Ch.B.; Buchanan Scholarship in Gynæcology, Alan MacDonald Dick, M.B., Ch.B.; James Scott Scholarship in Midwifery, Edward Burnet, B.A., M.B., Ch.B.; Mouat Scholarship in Practice of Physic, John Ritchie, M.B., Ch.B.; Stark Scholarship in Clinical Medicine, William Omand Sclater, B.Sc., M.B., Ch.B.; M'Cosh Graduate's and Medical Bursaries, William M'Alpine Pollock Henderson, M.A., B.Sc., M.B., Ch.B.; Beaney Prize in Anatomy and Surgery, Alan MacDonald Dick, M.B., Ch.B.; Conan Doyle Prize, Claude Pycroft, M.B., Ch.B.; Dorothy Gilfillan Memorial Prize, Ethel Wiseman, M.B., Ch.B.; Pattison Prize in Clinical Surgery, Albert Edward Bennee and William Kelman Macdonald, equal; and the Wightman Prize in Clinical Medicine, John Sinclair Manson, M.B., Ch.B.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

—At the July sittings of the Scottish Conjoint Board held in Glasgow the following candidates passed the respective examinations:—

First Examination.—Edulji Perizeshaw Meherji, Bombay; Robert John Helsby, Denbigh (with distinction); Dhumbal Maneckji Cama, Bombay; Merwanji Denshah Preinter, Bombay; William Henry B. M'Cann, Bombay; James M'Cusker, Glasgow; James Maxwell Adams M'Vey, Glasgow; and David Wilson, Washington, Durham.

Second Examination (five years' course).—Thomas Sholto Douglas, Greenock; John M'Call, Ulverston, Tasmania; Patrick James Taaffe, Liverpool; Hugh Clement de Souza, Rangoon; James Denis Collins, Cork; and Thomas Walsh, Ireland.

Second Examination (four years' course).—Tiravarar A. Ramaswami Aiyar, Madras; and Patrick Christopher Gerachty, Athlone.

Third Examination.—Harold Hilton Bradley, Manchester; Archibald Randolph Fulton Douglas, Greenock; James William Muir Hunter, Nottingham; Walter Riddell, Glasgow; John Austin Joseph Crowley, Cork; Patrick Martyn O Dwyer, Cork; Robert John Jones, Penygroes; William Treges, Birmingham; Emil Hamel Smith, Trinidad, British West Indies; Anna Sarah Lindsay, Ireland; Adam Hill, Ireland; and William Fraser M'Kenna, Sheffield.

Final Examination (and admitted Licentiates of the Three Colleges operating Authorities.)—James Henry Allan, Liverpool; Owen Thomas Jones, Bangor, North Wales; Robert John Jones, Penygroes, North Wales; James Alfred Ashurst, Govan; Gavin Watson Hill, Hamilton; John M'Arthur, Newmains; Ratilal Rangildas Bakshi, India; Adam Hill, Ballymoney, co. Antrim; Edward John Stubbs, Stratford, Ontario; Ernest Clinton Chandler, Montreal; Lakshmipati, India; Lawrence Albuquerque, India; Mahomed Samiullah, India; Patrick John Alexander Curtin, India; Andrew Baxter, Essex; Jalibai Bomanji Engineer, Hyderabad; and Ronald Archibald Taylor, London.

UNIVERSITY OF ABERDEEN.

—The following degrees and diploma have been conferred:—

Degree of Doctor of Science (D.Sc.).—James Charles Philip, M.A. B.Sc., Royal College of Science, South Kensington.

Degree of Bachelor of Science (B.Sc.).—John Spence Ewen, M.A., Cullen; Wm. James Grant, M.A., London; George Pittendreigh Hector, M.A., Aberdeen; Donald Cameron M'Intosh, M.A., Edinburgh; Doris Livingston Mackinnon, Aberdeen (with special distinction in botany and geology); James Milroy M'Queen, M.A., Aberdeen (with special distinction in zoology and physiology); Norman Munro, M.A., Aberdeen; Alice Annand Murray, M.A., Aberdeen (with special distinction in mathematics and natural philosophy); Helen Charlotte Elizabeth Douglas Ogston, Aberdeen (with special distinction in geology); James Ritchie, M.A.

Inverurie (with special distinction in botany, zoology, and geology); James Jenkins Simpson, M.A., Elgin (with special distinction in chemistry and zoology); and Harry Wiseman, M.A., Macduff.

Degree of Doctor of Medicine (M.D.).—Hugh Stewart Brander, M.A., M.B., Ch.B., Keighley; Alexander Fiett, M.B., Ch.B., Aberdeen; James Gilchrist, M.A., M.B., Ch.B., London; Alexander Gregor, M.B., C.M., Penryn, Cornwall (under Old Regulations); David Mitchell Macdonald, M.B., Ch.B., Dunkeld; Wyndham Anstruther Milligan, M.A., M.B., C.M., London (under Old Regulations); Alex. Murchison, M.B., C.M., Uig (under Old Regulations); Maurice Waugh Renton, M.B., C.M., Dartford (under Old Regulations); Harold Traill Skae, M.B., Ch.B., London, and William Clark Souter, M.B., Ch.B., Nigg.

Degree of Master of Surgery (Ch.M.).—Isaac Frederick Bernhardi de Villiers, M.B., Ch.B., French Hoek, South Africa.

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (Ch.M.), (Old ordinances).—Lawrence Cartwright, Ansdell, Lytham, Lancs.; and Thomas Robert Travell, Nottingham.

Degrees of Bachelor of Medicine (M.B) and Bachelor of Surgery (Ch.B), (New ordinances).—Roderick M'Kenzie Gunn, Gairloch (*with second-class honours*), Henry Begg, Rhynie; William Begg, Rhynie; Francis James Browne, Tullybogley; Robert Chalmers, Inverness; James M'Killican Clark, Aviemore; George Cooper, Dunnydeer, Insch; James George Copland, M.A., Cromarty; William Dalgliesh, Aberdeen; Hubert Karl Wilhelm Haartz Dornhorst, Colombo, Ceylon; Robert James Duthie, Aberdeen; Theodore Grant Gray, Aberdeen; Alfred Petrie Hall, Aberdeen; George Frederick John Hendry, Aberdeen. James Laing, M.A., Keith; James Mearns Macdonald, Inverness; James Ross Mackenzie, Aberdeen; Robert William MacPherson, Aberdeen; Douglas John Marr, Aberdeen; Alexander Noble, Luthermuir; Alexander Paterson, M.A., Douneside; Patrick Manson Rennie, Foochow, China; Albert Nathaniel Ewing Rodgers, Strabane; George Ernest Ross, M.A., Tain; James Arthur Scharenguivel, Colombo, Ceylon; Henry Smit, Middleburg, Cape Colony; Charlotte Augusta Fanny Schultze or Sturm, Peterhead; and Alexander Frank Wallace, Aberdeen.

Note.—James Emsley Mitchell has passed all the examinations but will not graduate until he has attained the necessary age.

Diploma in Public Health.—Charles Butchart Gerrard, M.B., Ch.B. Aberd., Aberdeen.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

D. R. Bardi, L.M. & S. Univ. Bombay; and D. N. Morgan, M.R.C.S. Eng.

The following candidate having passed the necessary examination has been admitted a Licentiate of the College:—

G. Scarr, M.B. Univ. Dub.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. Wilhelm Lindt, *privat-docent* of Laryngology, has been granted the title of Professor. Dr. F. Seiler has been recognised as *privat-docent* of Internal Medicine.—*Breslau:* Dr. Karl Zieler has been recognised as *privat-docent* of Dermatology and Syphilis.—*Budapest:* Dr. E. Konrad has been recognised as *privat-docent* of Mental Diseases; Dr. A. Hasenfeld as *privat-docent* of the Pathology and Therapeutics of Diseases of the Circulation; Dr. I. Lovrich as *privat-docent* of Midwifery Operations; and Dr. K. Minich as *privat-docent* of Forensic Medicine.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, JULY 25TH.

Lunacy (Ireland) Bill.

Mr. VINCENT KENNEDY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had received a resolution from the Monaghan and Cavan Asylum protesting against the Lunacy (Ireland) Bill of 1906; how many asylum boards had protested against this measure, and what was the approximate amount which it was anticipated would be saved by the proposed legislation; and whether in view of the hostility to the Bill and all the facts in connexion therewith the Government intended to go on with this Bill.—Mr. BRYCE answered: The resolution referred to has been received. In all, 21 asylum boards have protested against the Lunacy (Ireland) Bill of the present session. It is estimated that the saving which would be effected by the Bill would amount to above £2000 per annum. The Government, however, has decided not to proceed with the Bill during the present session.

The Lunacy Commission.

Mr. WILLIAM REDMOND asked the Secretary of State for the Home Department whether his attention had been called to the fact that the number of lunatics had increased from 25,000, when the Commissioners in Lunacy were first appointed, to 125,000, and that the Commissioners in Lunacy had urgently asked for an increase in their numbers, without which their work could not be efficiently performed, and whether it was intended to appoint additional Commissioners forthwith.—Mr. GLADSTONE, in answer, said: It must be remembered that the number of Commissioners is fixed by statute so that legislation would be required to add to their number. Such legislation could not be undertaken this session. But I may say that the whole question of the administration of the Lunacy Acts is at present engaging the attention of His Majesty's Government.

Protection of Water-supplies.

Mr. MACLEAN asked the President of the Local Government Board whether, in view of the aggregation of population in urban areas and the development of industrial undertakings, both requiring, in the interests of public health and industrial efficiency, a great increase of the existing water-supply, he would take into consideration the advisability of instituting an inquiry, either by Royal Commission or Parliament, to investigate, amongst other things, the need for the protection and development of existing gathering grounds and other sources of water-supply, the allocation of such gathering grounds and other sources on a comprehensive and equitable basis, and the general control and supervision of this subject of national importance by some central and properly qualified body or department.—Mr. JOHN BURNS replied: The Royal Commission on Sewage Disposal in its third report made recommendations as to the establishment of a central authority in connexion with the Local Government Board for the prevention of the pollution of water and for some other purposes relating to water-supply. It considered that the central authority might, with the aid of the rivers boards which it thought should be set up, collect information in regard to the waste of water and its abstraction from one district for distribution in another. I am giving attention to this report and it seems to me that, pending the decision on the recommendations contained in it, consideration of the desirability of an inquiry by Parliament or by another Royal Commission such as is suggested by my honourable friend should be deferred.

Medical Officers in the Glasgow Post-office.

Mr. JAMES O'CONNOR asked the Postmaster-General whether he had yet appointed the medical officers for the Glasgow post-office and, if so, to whom the appointments had been given.—Mr. SYDNEY BUXTON answered: I have not yet made the appointments but I hope to do so very shortly. The number of applicants is extremely large.

Irish Midwifery Qualifications.

Mr. HEALY asked the Prime Minister whether he was aware that although Dublin contained the largest and oldest chartered school of midwifery in the empire, and the second largest in the world, the profession of midwife in Ireland, which had been organised for more than 150 years, had been gravely prejudiced by the action of a newly constituted body in England (which was not yet four years old), in refusing to recognise the Irish midwifery qualification and inducing Government departments to stipulate in advertisements that the new English qualification would alone be recognised; was he aware that the Irish midwifery schools, which now attracted students not only from Great Britain and the colonies but from the continent and the United States, had without effect protested against the slur officially cast on the older Irish qualification; would he inquire whether the English Central Midwives Board refused to hold any examination in Ireland (although guaranteed the expense), so as to handicap Irish midwives and put them to the outlay of a ten days' visit to England; and, if so, would the Government allow the Midwives Act, 1902, which was passed with the consent of all parties, to remain in force.—Sir HENRY CAMPBELL-BANNERMAN replied: My information is that the Central Midwives Board has not refused to recognise the Irish midwifery qualifications, nor has it induced, or endeavoured to induce, Government departments to stipulate in advertisements that the qualification of its own certificate would alone be recognised. As to the refusal of the Board to hold examinations in Ireland, of which the honourable member complains, I am advised that by the terms of the statute such examinations cannot be held in Ireland.

Mr. HEALY asked the Secretary of State for War, upon what principle the recent advertisement for a midwife for the Curragh Camp prescribed the qualification of an English certificate under the Midwives Act; was he aware that Ireland was excluded from the Act solely because the then existing Irish qualification was so high that the Act was unnecessary in Ireland; would the War Department take care that in future the Irish as well as the English qualification for midwives should be prescribed in their advertisements; and could he say by what means the Government was induced officially to discredit the Irish midwives qualification at the Curragh, having regard to the pledges given when the Act was passed, that the high position of Irish nurses should not be prejudiced.—Mr. HALDANE answered: All nurses appointed to military families hospitals are liable to be moved to any part of the United Kingdom and those holding an Irish qualification are ineligible to practise in England after 1910 unless registered in that country. Considerable difficulties therefore arise from the appointment of a nurse who cannot be employed in English hospitals. The nurse who was accepted for this appointment held an Irish qualification and was specially selected from a large number of candidates.

Certificates of Conscientious Objections.

Major COATES asked the President of the Local Government Board whether he will give a return showing how many certificates of conscientious objections to vaccination were granted in the years 1904 and 1905 respectively and how many were refused.—Mr. JOHN BURNS answered: The number of certificates received by the vaccination officers in 1904 and 1905 respectively was 39,512 and 41,637. I am not able to say how many applications for certificates were refused and the information could not be obtained without considerable difficulty.

FRIDAY, JULY 27TH.

Another Vaccination Case.

Mr. SEAVERNS asked the Secretary of State for the Home Department whether his attention had been called to the fact that on July 23rd Mr. Howard Farrow applied to Mr. Francis at the Lambeth police-court for a certificate of exemption from vaccination for his child, and stated that he had a conscientious objection to vaccination, and the magistrate declined to grant such certificate; whether he was aware that Mr. Farrow had previously been fined at the same court for refusing to allow another child to be vaccinated; and what action the Home Secretary proposed to take in the matter.—Mr. GLADSTONE replied: I am informed that Mr. Farrow stated that he conscientiously objected to vaccination but refused to give the grounds upon which he founded his objection. The certificate was refused because the applicant failed to satisfy the magistrate, as required by the Act, that he conscientiously believed that vaccination would be prejudicial to the health

of the child in question. As I have said in reply to previous questions on the same subject, I have no authority to take action in the matter.

SATURDAY, JULY 28TH.

The General Medical Council and Dr. J. B. Bawden.

Mr. BOWLES asked the Secretary of State for the Home Department whether his attention had been called to the proceedings of the General Medical Council in the recent case of Dr John Bate Bawden; whether he was aware that, though proved to have committed only a slight infraction of etiquette, which he engaged not to repeat, Dr. Bawden's name had been removed from the Medical Register on the ground that he was guilty of infamous conduct in a professional respect; and whether, in view of the power of the General Medical Council to adjudge as infamous any conduct of which it disapproved and the absence of any appeal or other remedy to the victims of such judgments, he was prepared to introduce legislation limiting the powers of this Council to bringing cases of unprofessional conduct before a divisional court.—Mr. GLADSTONE said: I am informed by the Registrar of the General Medical Council that the Council, after a prolonged and careful trial at which the accused practitioner was present and gave evidence on his own behalf, came to the conclusion that a grave professional offence had been committed by Dr. Bawden. I am not prepared to introduce legislation on the lines suggested.

MONDAY, JULY 30TH.

Metropolitan Asylums Board Schools.

Mr. TOULMIN asked the President of the Local Government Board whether his attention had been drawn to the report for 1905 of the Children's Committee of the Metropolitan Asylums Board, in which regret was expressed at the want of appreciation by metropolitan boards of guardians of the homes and schools provided by the Board for certain special classes of children in the guardians' care—viz., those with ophthalmia or ringworm, defective children, or convalescent children needing sea air; and at the failure to secure that every child falling within one or another of the classes in question should be promptly removed to the institution suited to its requirements; and whether he would urge on boards of guardians the duty of giving to the children in their care who need them the advantages of these special homes.—Mr JOHN BURNS answered: My attention has been drawn to the passage in the report referred to in the question and I propose to address a circular to the metropolitan boards of guardians on the subject to which it relates.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

COATS, GEORGE, M.D. Glasg., F.R.C.S. Eng., has been appointed Additional Ophthalmic Surgeon to the Out-patient Department at the Great Northern Central Hospital, London, N.

CROWE, J. T., L.S.A., has been appointed Resident Assistant Anæsthetist at St. Mary's Hospital.

CURTIS, WILFRED, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer by the Liskeard (Cornwall) Board of Guardians.

GOODALL, EDWIN, M.D. Lond., B.S., F.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent at the Cardiff City Asylum.

HALL, G., M.D., C.M. Edin., has been reappointed Medical Officer of Health to the Hambledon Rural District Council, Surrey.

HILL, W. BERTRAM, M.B., Ch.B. Vict., has been appointed House Surgeon at the Leeds General Infirmary.

KEANE, D. J., M.B., B.Ch., B.A.O. R.U.I., has been appointed Medical Officer for Ennistymon Union Workhouse, Limerick.

KNIPE, GEORGE W., M.B. B.Ch., B.A.O. R.U.I., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer at the Sick Asylum, Hendon.

LEEDHAM-GREEN, CHARLES, M.B. Birm., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Queen's Hospital, Birmingham.

MURDOCK, W., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Annan District of the county of Dumfries.

TOTE, EDWIN JOSIAH, M.D., B.Sc. Lond., F.R.C.S. Eng., has been reappointed Medical Officer of Health for the Northam (Cornwall) Urban District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRACEBRIDGE ASYLUM, Lincolnshire.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

BRADFORD, ROYAL INFIRMARY.—Medical Officer, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and residence. Also Third House Surgeon, unmarried. Salary £50 per annum, with board and residence.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

CAMBRIDGE UNIVERSITY.—R. C. Brown Research Scholarship in Special Pathology. Annual value £150.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrar (Honorary).

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £60 per annum, with board and lodging.

CHESHIRE, CROSSLEY SANATORIUM, Delamere Forest.—Assistant Medical Officer. Salary £50 per annum, with board, apartments, and laundry.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board, lodging, and laundry.

EGYPTIAN GOVERNMENT, MINISTRY OF EDUCATION.—Professor of Midwifery and Gynæcology. Salary £400 a year. Also Medical Tutor and Registrar to Kasr-el-Ainy Hospital. Salary £400 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—Physician to Out-patients.

HOUNSLOW HOSPITAL.—Honorary Ophthalmic Surgeon.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

MANCHESTER, ST. MARY'S HOSPITALS.—Six District Obstetric Officers.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Joint Lecturer in the Principles and Practice of Surgery.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in charge of Electrical Department. Salary £50 per annum.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—House Physician, House Surgeon, and Junior House Surgeon. Each for six months, and unmarried. Salary of two former at rate of £80 and of latter at rate of £40 per annum, with board, &c.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

ST. HELENS COUNTY BOROUGH.—Assistant Medical Officer (female). Salary £160 per annum, rising to £200.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board and lodging.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with apartments, rations, &c.

SHERBURN (ANCIENT) HOSPITAL, near Durham.—Medical Officer. Salary £300, with house, coals, &c.

SOUTHWARK UNION INFIRMARY, East Dulwich, S.E.—Second Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 a year, with board and apartments.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Honorarium £25, with board and lodging.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon, for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

WORCESTER COUNTY AND CITY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £130 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

MOYNIHAN.—On July 29th, at St. Mary's Mount, Clarendon-road, Leeds, to Mr. and Mrs. B. G. A. Moynihan, a son.

MUDIE.—On July 30th, at York Lodge, West Norwood, S.E., the wife of Arthur Mudie, L.R.C.P. Edin., &c., of a son.

MARRIAGES.

GOULD—PEARSE.—On July 24th, at St. Ninian's, Moffat, N.B., Harold Utterton Gould, M.A., M.B. (Trin. Coll., Camb.), to Mabel Charlotte, youngest daughter of the late Rev. J. Wingate Pearse, rector of Wilton, Bucks, and R.D.

WEST—PARROTT.—On July 25th, at St. Marylebone parish church, Waldemar Shipley West, M.A., M.D., of Aylesbury, to Beatrice Emily Parrott, youngest daughter of the late Joseph Parrott, Solicitor, and of the late Mrs. Parrott, of The Chestnuts, Aylesbury.

DEATHS.

MACKEY.—On July 28th, in London, after a short illness, Edward Mackey, M.D., of Hove, Sussex.

WILLOUGHBY.—On Sunday, the 29th July, at Bratton Lodge, Green Lanes, Finsbury Park, N., Edward Francis Willoughby, M.D., D.P.H., after one week's illness, in his 67th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PUBLIC, THE MEDICAL PROFESSION, AND THE LANCET.

WE recently received a letter from an obviously well-educated man in a good social position asking us to give him the name of a physician making a specialty of brain and nervous diseases. We, of course, pointed out to him that it would be impossible for us to comply with what he asked and recommended him to consult his family medical adviser. The reasons for this course seemed to us so obvious that we did not explain them at any length—and we may say if we were to give explanations justifying our refusal of assistance to those members of the public who insist in regarding THE LANCET as a bureau of gratuitous medical information we should be compelled considerably to increase our clerical staff. But so difficult is it apparently for the public to believe that we are not such a bureau that we are never surprised to receive letters similar to the one which was written by the correspondent in question in answer to our refusal:—

PRIVATE.

DEAR MR. EDITOR,—I was somewhat surprised at your refusal to give me the name or names of a brain and nervous disease specialist. I did not expect you would do so through the columns of THE LANCET but in a *letter* I fail to see what objection there is.

Surely you as Editor of that journal must see the good you can do to humanity by naming a few and while I could ask a doctor the question I prefer not to, as my little experience leads me to think they are not well acquainted with specialists.

Believe me, yours truly,
X. Y. Z.

"X. Y. Z.," as we have called him, for his communication is marked "Private," shows in every word of his letter his inability to realise the position occupied by the medical profession or by ourselves. He would rather obtain information from us, who know nothing of the case for whom the specialist is stated to be required, than take the patient, who may stand in need of no special treatment whatever, to his medical adviser and obtain professional counsel after consideration of all the circumstances. "X. Y. Z." has not an idea of the routine of medical education or he would not commit himself to chronicling his experience that medical men "are not well acquainted with specialists." He does not know that special advice is obtained from physicians and surgeons who either teach and examine the medical practitioner or who have justified their position publicly in other ways; if he did appreciate these things he would see that the records and work of these men are necessarily known to the practitioner. The only information which we could give him would be derived from our own pages which are open to his medical adviser and from knowledge of the medical world largely shared by that adviser. "X. Y. Z.'s" idea, however, seems to be that we should tip him a winning brain specialist on much the same principles as those oddly-named prophets, the "Old Joes" and "Old Clos," of the evening papers will tip you a winner (or it may be a loser) in an autumn handicap. We are quite certain from the tone of our correspondent's letter that the wish to get information out of us for nothing, which he would have to pay his medical adviser to give him, has in no way actuated him. He simply does not understand that medical advice can only be given by the person who has seen the patient, while he fails to understand that THE LANCET is a professional journal. If "X. Y. Z.'s" medical adviser desired any information of any sort from us it would, of course, be at his service.

THE CATTLE-RAID OF CUALNGE.

To the Editors of THE LANCET.

SIRS,—I should be glad if any of your readers could throw light on the following descriptions which occur in a book entitled "The Cattle-Raid of Cualnge," which is a translation of an old Irish prose-epic written apparently about the year 1100. In the description of Fedelm, the prophetess of Connaught, occur the words, "Each of her eyes had three pupils." Again, it is said of Cuchulainn, a young man of stupendous valour, who killed (according to the chronicle) a great many bearded men in open combat before the age of seven years, that "there were seven pupils in Cuchulainn's royal eye and two of these pupils were squinting."

In the same book there are two descriptions of the "contortions" which used to come over warriors when the lust of battle seized them. If these are accurate in any degree they completely eclipse all the exhibitions one pays to see nowadays. In the case of Cuchulainn, the infant prodigy previously alluded to, "his shanks shook like a tree before the stream. ..... His feet and his shins and his knees came so that they were behind him; his heels and his calves and his hams came so that they were in front. The front sinews of his calves came so that they were on the front of his shins, so that every huge knot of them was as great as a warrior's clenched fist. The temple sinews of his head were stretched so that they were on the hollow of his neck, so that every round lump of them ..... was as great as the head of a month-old child. Then he made a red bowl of his face ..... he swallowed one of his two eyes into his head so that from his cheek a wild crane could hardly have reached it (to drag it) from the back of his skull. The other sprang out till it was on his cheek outside. ..... He drew the cheek from the jawbone so that his gullet was visible. His lungs and his lights came so that they were flying in his mouth and his throat."

It is scarcely surprising that after this "contortion" he made a circular tour of Ireland for the express purpose of slaying people and his excursion was so full of battle, murder, and sudden death that he killed a few score kings and princes and an innumerable number of dogs and horses and women and boys "and people of no consequence and rabble." It would appear that the translators of such works as these are very seriously handicapped indeed.

I am, Sirs, yours faithfully,
MEREDITH YOUNG, M.D. Edin.

Public Health Office, Stockport, July 29th, 1906.

"PROFESSOR" RICHARD AND OTHERS.

OWING to sentence passed last week at Stafford assizes there will be one quack the less at liberty during the forthcoming 12 months, for this term of imprisonment was passed upon "Professor" Richard by Mr. Justice Bigham. Like so many other quacks, Richard appears to have had a chequered career. He is said to have been divorced four times, to have been imprisoned for swindling at Antwerp, to have been twice expelled from Belgium, to have been bankrupt in America, and it came out in evidence that he had swindled a number of persons in this country. It is true that sundry people claimed to have received benefit from his treatment, but this fact did not weigh with a more than usually intelligent jury and Richard was accordingly sentenced to 12 months' imprisonment. He is undoubtedly a swindler of the worst order, but he is no worse than many others whose advertisements will be found in magazines which are popular, have a large circulation, and are owned by persons who should know better than to increase their profits by a method of procedure which is practically conniving at fraud. Take, for example, Bile Beans, an advertisement of which nostrum appears at p. 42 of the *Strand Magazine* for July. The Bile Bean business came before the Scottish courts in September, 1905, and one of the judges of the Court of Session—namely, Lord Ardwall—said that the business "was one founded upon fraud, impudence, and advertisement." The same case came up on appeal in the Edinburgh Court of Session this year and on July 20th the Lord Justice Clerk delivered judgment. In the course of this judgment he said that "the evidence in this case disclosed the history of a gigantic and too successful fraud. The two complainers who asked an interdict against others did so to protect a business which they had brought to enormous proportions by a course of lying which had been persisted in for years." And again, "the complainers could not succeed in obtaining assistance from the law for a business based on unblushing falsehood for the purpose of deceiving the public into a totally false belief as to the origin and material of the goods they sold." It will be remembered that the promoters of Bile Beans were a man named Fulford and a man named Gilbert, who advertised that the essential constituent of Bile Beans had been discovered in Australia by one "Charles Forde," and that this "Forde" had been shown the constituent by natives in Australia. All these statements were declared to be lies. Bile Beans are, of course, just an ordinary purgative pill, but to talk of "Years of Gastric Agony Terminated by Bile Beans," as does the advertisement in the July *Strand Magazine*, is to delude the public. (We see that we are requested by the advertisement to mention "July, 1906, *Strand Magazine*," and we do so with pleasure.) "Professor" Richard has got a portion of his deserts, but what we are anxious to know is why cannot other quacks be proceeded against for misstatements and fraud? And why should popular magazines be so ready to make dirty money by conniving at such frauds?

SOME RELICS OF THE LATE SIR ALEXANDER ARMSTRONG, M.D., K.C.B., F.R.S.

ON Thursday, July 26th, Messrs. Glendining and Co. sold by auction the following articles:—

"Pocket chronometer, by Bennett, London, in massive 18-carat gold case, engraved with design H.M.S. *Investigator*, Icebound, the *reverse* having the inscription, 'Presented October, 1854, to Alexander Armstrong, Esq., M.D., late of H.M.S. *Investigator*, by the Petty Officers, Seamen, and Marines of that Ship, as a testimony of their sincere respect and gratitude for his unwearied professional skill and humanity during the unparalleled Arctic Service which resulted in the Discovery of the North-West Passage'; gold enamelled badge of a Knight Commander of the Bath (Military Division); the Star of a Knight Commander of the Bath; the medal for Arctic Discoveries, 1818-1855, and miniature of the same; the Baltic Medal, 1854-1855, with miniature; and a silver medal (Diamond Jubilee, 1897)."

Sir Alexander Armstrong, as our readers may remember (*vide* THE LANCET, July 22nd, 1899, p. 249), died on July 4th, 1899. He began his medical career under the guidance of Dr. Charles Ward of Limavady, co. Derry, to whom he was apprenticed, and received his medical education at Trinity College, Dublin, and at the University of Edinburgh. He entered the navy in 1842. In 1843, while serving on the Mediterranean station, he was in medical charge of a party landed for the exploration of Xanthus and for his scientific observations on this occasion he received the official thanks of the trustees of the

British Museum and was recommended for promotion by his commander-in-chief for the excellence of the sanitary arrangements which he organised. At the end of 1849 he was appointed as surgeon and naturalist to the *Investigator*, which sailed in search of Sir John Franklin on Jan. 20th, 1850. The voyage was one of many difficulties and to the efforts of Sir Alexander Armstrong, then fleet surgeon, must be ascribed the excellent health enjoyed by the crew and officers. There was no scurvy on board until 1852 and even then it did not assume dangerous proportions. A period of immunity of upwards of two years was remarkable at that time. One result of the voyage was that a north-west passage was made out and another was the publishing of a journal on board the ship of the daily events of the expedition, dedicated to the Prince Consort, and also a little *brochure* dealing with naval hygiene and the use of lime-juice as a preventive of scurvy by Fleet-Surgeon Armstrong. For his journal during the voyage he received the Gilbert Blane Gold Medal. In 1858 he was promoted to deputy inspector-general of hospitals and fleets and eight years later to the rank of inspector-general. In 1869 he became director-general of the medical department of the Royal Navy. He was nominated a military K.C.B. in 1871 and in 1873 was elected a Fellow of the Royal Society.

THE POPULAR TEACHING OF TEMPERANCE AND HYGIENE.

THE United Kingdom Band of Hope Union has established a "department of scientific instruction and information," of which Mr. Walter N. Edwards, F.C.S., their science lecturer, has been appointed director. The department will deal with all matters relating to the *scientific* aspect of the temperance question and if properly managed ought to become a valuable teaching agency. We have italicised the word "scientific," for in scientific instruction there can be no room for silly exaggeration or fanaticism.

"NOBLESSE OBLIGE."

WE cull the following flower of impassioned pleading from the advertisement columns of the *Morning Leader* of July 30th:—

TO DOCTORS.

There are in London over two thousand resident Doctors actually in practice.

Some scores of children have either been impaired for life or put to Death by Vaccination.

No Doctor has yet refused to Vaccinate with the stuff guaranteed pure by the Local Government Board.

Will any one of the many Doctors in London who have put a child to Death by Vaccination, consent to scratch an arm harmlessly and innocuously, and give the usual certificate? He would thereby improve his chances in the next world, and render hundreds of poor parents grateful in this. He would also assist the Government to achieve indirectly the purposes of the Conscientious objection clause to the Vaccination Act of 1898, which is at present a dead letter except for the middle and upper classes.

If such a Doctor exists, will he communicate with the Hon. E. Pomeroy, 6, Campden House Chambers, Kensington, W.?

We have already referred in THE LANCET of July 14th to other of the Honourable Ernest Pomeroy's views upon medical men and sanitary authorities, but for blatant impudence and sheer ignorance combined the present effusion is some way ahead of his previous public performance. We will be kind to the Honourable Ernest Pomeroy and point out to him that if "such a doctor exists," and if he communicates with the Honourable Ernest Pomeroy, then it is quite evident that the "doctor" in question will have committed murder, and in that case the Honourable Ernest Pomeroy would be an accessory after the fact, a position as to which the law would have something to say. The Honourable Ernest Pomeroy talks about chances in the next world. We do not pretend to be authorities upon eschatology, but we believe it to be generally thought that deliberate lying does not improve a man's chances in the next world, or, in the long run, in this world. The heir to the Viscounty of Harberton appears to have forgotten the maxim which we have placed at the head of this paragraph. It is some consolation to know that, as the peerage is an Irish one, the future Viscount Harberton will not necessarily be a legislator.

THE EBBW VALE WORKMEN'S DOCTORS' FUND.

IN THE LANCET of July 28th we spoke of Mr. H. S. Elworthy as being one of the medical officers of the Workmen's Doctors' Fund. He is not so; he is resident medical officer of the Ebbw Vale Steel, Iron, and Coal Company. The meeting which we spoke of as having been arranged by the Trades and Labour Council of Ebbw Vale to be held on July 28th was held on July 21st, although it was advertised in the *Merthyr Express* of July 21st as "to be held next Saturday."

A NON-FATTY CATHETER LUBRICANT.

IN the June number of *Guy's Hospital Gazette* Dr. T. Brice Poole advocates the use of a lubricant devised a few years ago by Dr. Oscar Kraus of Carlsbad (*Annales des Maladies des Organes Génito-Urinaires*, January, 1899). It consists of gum tragacanth, 2·5 grammes; glycerine, 10 grammes; 3 per cent. aqueous solution of carbolic acid, 90 grammes. The ingredients are triturated in the cold to form a thick syrup which is soluble in water. This lubricant is aseptic and antiseptic and is acceptable and soothing to the patient's mucous membrane. Dr. Poole finds it to be safe and efficient; it also facilitates the cleansing and promotes the preservation of gum elastic and rubber catheters. A catheter can be quickly cleansed after use by immersion in tepid water and can be subsequently sterilised in an antiseptic solution. It is a suitable lubricant in cases where catheterisation has to be intrusted to the patient himself or to an untrained attendant. Greasy lubricants have many disadvantages compared with Kraus's lubricant. For example, they tend to prevent an antiseptic solution from penetrating to the surface of the instrument and cause the surface of gum-elastic instruments to become rough by dissolving away the varnish with which these instruments are impregnated. Moreover, fats have a deleterious action upon rubber. Dr. Poole suggests the use of Kraus's lubricant for lubricating the finger in making rectal or vaginal examinations and for lubricating pessaries previously to their introduction. Owing to its non-greasy nature it is, of course, unsuitable for lubricating the joints of metallic instruments.

"EKTOGAN."

THE British Druggists, Limited, of 82, Clerkenwell-road, London, E.C., write to us pointing out that "ektogan" is not merely oxide of zinc, as was stated in a recent prosecution case, but peroxide of zinc. One of its active constituents, therefore, is nascent oxygen, which renders it of service as an antiseptic in the treatment of wounds. An analysis of ektogan, we may add, was published in THE LANCET of Jan. 2nd, 1904, p. 35, in which it was shown that this substance contained 41·40 per cent. of zinc peroxide, corresponding to 7 per cent. of active oxygen.

MICROBIAL POISONS FOR RABBITS IN AUSTRALIA.

THE *Board of Trade Journal* of July 27th states that the *Commonwealth of Australia Gazette* of June 6th last contains a proclamation notifying that, in accordance with the provisions of the Customs Act of 1901, the importation into Australia of a certain microbe known as the "Danysz microbe of rabbit septicæmia," and every other microbe for inoculating rabbits with disease, is, except under certain conditions and restrictions, prohibited.

X.Y.Z.—We think that the patient should be told the name of his disease and the necessity for caution in avoiding the risk of infecting others should be explained to him. As for the manner in which he contracted the complaint, that point might be left open. He might be told that there are many ways in which a patient may become infected and that there is no evidence as to how the disease was contracted in this particular instance. The other member of the household whose presence bears upon the case should be told that any one so infected is a danger to other people and arrangements should be made that the post occupied by the person in question should be at once vacated; and no similar post should be taken until health is restored.

Newly Qualified.—The various steamship companies have their own regulations for the post of ship's surgeon but the appointment is made subject to the approval of the Board of Trade. Our correspondent, having made up his mind on which line he wishes to serve, should apply to the secretary of the particular company which he selects. A list of ocean mercantile fleets, both British and foreign, is to be found at p. 736 of "Whitaker's Almanack" for the current year and the addresses of the head office are given at the end of the notices of the respective companies.

Beta.—Both 16 per cent. and 10 per cent. are correct, but the former is by weight and the latter by volume. Spiritus rectificatus B.P. 1885 contained 84 per cent. by weight of absolute alcohol and 16 per cent. by weight of water, or 88·65 per cent. by volume of absolute alcohol and 11·35 per cent. by volume of water. Spiritus rectificatus B.P. now contains 90 per cent. by volume of alcohol (= 10 per cent. water) or 85·65 per cent. by weight (= 14·35 per cent. water).

M.D. St. Andrews.—Probably if the attention of the General Medical Council were called to the specific irregularities of which our correspondent complains the offending practitioners would be warned to discontinue describing themselves inaccurately. The difficulties arising out of the fact that the word "Doctor" is both a popular appellation and an academic degree have been dealt with over and over again in our columns.

Roger.—On our correspondent's own showing his medical adviser diagnosed the condition correctly. He can dispense with his services, of course, if he chooses—this is a free country—but the other medical man whom he proposes to consult will require to have the case properly handed over to him by his predecessor in the treatment. What about trying a little urbanity?

A General Practitioner.—Incest is not a crime under the law in this country, but when a sexual assault is committed upon a child under 16 years of age, and the offender is convicted under the Criminal Law Amendment Act, incest is naturally regarded as an aggravation of the offence. We do not think that any Government is likely to consider the advisability of legislating as our correspondent desires.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Belfast Whig, Blackburn Telegraph, Nottingham Evening Post, Wolverhampton Express, Staffordshire Sentinel, Nottingham Guardian, Leeds and Yorkshire Mercury, Glasgow News, Newcastle Evening Chronicle, The Scotsman, Morning Leader, Sunderland Echo, Leicester Post, Coventry Times, Birmingham Post, Darlington Star, Manchester Dispatch, Motoring Illustrated, The Globe, Tribune, Hartlepool Daily Mail, Bristol Press, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 2nd, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 27	29·80	S.E.	0·04	117	76	62	63	66	Overcast
,, 28	29·93	S.W.	0·39	122	76	59	59	64	Fine
,, 29	29·96	S.W.	...	129	78	60	65	69	Cloudy
,, 30	29·92	S.E.	0·02	126	81	61	64	70	Fine
,, 31	29·85	S.W.	...	124	81	67	66	70	Cloudy
Aug. 1	30·08	W.	...	126	77	58	60	66	Cloudy
,, 2	29·95	S.W.	...	116	78	63	66	73	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—POST-GRADUATE COLLEGE (West London Hospital Hammersmith road, W.).—2.15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Mr. Dunn: Diseases of the Eye.

TUESDAY (7th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10.30 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Dr. Ball and Dr Davis: Diseases of the Throat, Nose, and Ear. 2.15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY (8th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M: Dr. Ball and Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Medical Diseases of Children. 2 15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

THURSDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2.15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Mr. Dunn: Diseases of the Eye.

FRIDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10.30 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Dr. Ball and Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the skin.

SATURDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball and Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.15 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1906, which was completed with the issue of June 30th, and the Title-page to the Volume, were given in THE LANCET of July 7th.

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